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PORT of SAN DIEGO

Final Environmental Impact Report

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project



Volume I of III

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May 2017

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FINAL ENVIRONMENTAL IMPACT REPORT SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT FIREWORKS DISPLAY EVENTS PROJECT

VOLUME I OF III

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Acronyms and Abbreviations

µg/L	micrograms per liter
Board	Board of Port Commissioners
BTR	Biological Technical Report
CDFW	California Department of Fish and Wildlife
CEMP	California Eelgrass Mitigation Policy
CEQA	California Environmental Quality Act
CERF	Coastal Environmental Rights Foundation
CFR	Code of Federal Regulations
CTR	California Toxic Rule
District	San Diego Unified Port District
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
HPD	Harbor Police Department
I-5	Interstate 5
MMRP	Mitigation Monitoring and Reporting Program
Monitoring Plan	Avian Species Nesting Colony Monitoring Plan
NASSCO	General Dynamics National Steel and Shipbuilding Company
NFIP	National Flood Insurance Program
NOP	Notice of Preparation
NWR	National Wildlife Refuge
proposed ordinance	San Diego Unified Port District Code section
proposed project	San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
RWQCB	Regional Water Quality Control Board
U.S.S. Midway Museum	U.S.S. Midway Aircraft Carrier Museum
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled

1.1 Project Overview

The San Diego Unified Port District (District) is proposing (1) to adopt an ordinance establishing a District Code section (proposed ordinance) to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants, and (2) four proposed new fireworks display events that would be located adjacent to the National City and Chula Vista Bayfronts. These four proposed new fireworks display events are anticipated to require future discretionary actions by the District. Discretionary actions for fireworks display events that may require District approval include, but are not limited to, the following:

- Sponsorship agreement
- Special event permit
- Lease and lease amendment
- Tideland Use and Occupancy Permit
- Right of Entry Permit
- Coastal Act Categorical Determination of Exclusion
- Coastal Development Permit

Several existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants occur throughout the year in San Diego Bay and the Imperial Beach Oceanfront. Within San Diego Bay, these existing fireworks display events include the annual Fourth of July Big Bay Boom and other fireworks display events associated with the San Diego Symphony's Summer Pops concert series, Our Lady of Rosary Church annual procession, the U.S.S. Midway Aircraft Carrier Museum (U.S.S. Midway Museum), and General Dynamics National Steel and Shipbuilding Company (NASSCO). Also within San Diego Bay, the Fireworks Show Over Glorietta Bay is an existing display whose fireworks organizers may seek to obtain funding from the District in the future, a request that would require a discretionary action by the District. The Fourth of July Imperial Beach Fireworks Show is an existing display that occurs along the Imperial Beach Oceanfront. All of these existing fireworks display events would be governed by the proposed ordinance. Additionally, the four proposed new fireworks display events that would occur adjacent to the National City and Chula Vista Bayfronts would also be governed by the proposed ordinance.

1.2 Certification of the Final EIR

The District is the Lead Agency, as defined under California Environmental Quality Act (CEQA) Guidelines Section 15050, because it has principal responsibility for carrying out and approving the proposed project. As Lead Agency, the District also has primary responsibility for complying with

CEQA. Therefore, the Board of Port Commissioners (Board), as the decision-making body of the District, is required to consider the information contained in the Final Environmental Impact Report (EIR) prior to approving the proposed project. Specifically, the Board must certify that:

- The Final EIR has been completed in compliance with CEQA;
- The Final EIR was presented to the decision-making body of the Lead Agency and the decision-making body reviewed and considered the information contained in the Final EIR prior to approving the project; and
- The Final EIR reflects the Lead Agency’s independent judgment and analysis.

Other agencies may use the information contained in this Final EIR when considering issuance or authorization of any other approvals for the project. The Final EIR, in compliance with Section 15132 of the State CEQA guidelines, includes Volumes I–III listed under Section 1.3 below.

1.3 Contents and Organization of the Final EIR

The content and format of this Final EIR is designed to meet the requirements of CEQA and the State CEQA Guidelines, Article 9, and specifically State CEQA Guidelines Section 15132. Table 1-1 summarizes the organization and content of the Final EIR.

The Draft EIR that was previously circulated for public review is an integral part of the Final EIR; both documents are intended to be used together. The Draft EIR was not reprinted; however, a CD copy of the Draft EIR is enclosed with this Final EIR and the Final EIR (including the Draft EIR) may also be viewed on the District’s website. A paper copy of the Draft EIR, including its appendices, is available at the District Clerk office at 3165 Pacific Highway, San Diego, CA 92101, during regular business hours, which are Monday through (every other) Friday, 8 a.m. to 5 p.m.

Table 1-1. Document Organization and CEQA Requirements

Location	Contents
VOLUME I	
Chapter 1 <i>Introduction</i>	Provides background on the proposed project, the requirements for a Final EIR and other related documents, and the organization of the Final EIR.
Chapter 2 <i>Executive Summary</i>	Briefly summarizes the proposed project; identifies each significant effect, with proposed mitigation measures and alternatives that would reduce or avoid that effect; identifies the areas of controversy known to the Lead Agency, including issues raised by agencies and the public; and summarizes the issues to be resolved, including the choice among alternatives and how to mitigate the significant effects (State CEQA Guidelines Section 15123).
Chapter 3 <i>Revisions to the Draft EIR</i>	Includes the revisions to the Draft EIR and its technical appendices (where appropriate), which were prepared in response to comments received during the public review period for the Draft EIR (State CEQA Guidelines Section 15132).

Location	Contents
Chapter 4 <i>Comments Received and District Responses</i>	Includes a list of agencies, organizations, and individuals that provided comments on the Draft EIR during the public review period as well as the distribution list that was used to circulate the Draft EIR. Each comment is assigned a comment number, which corresponds to a response (State CEQA Guidelines Section 15132).
Chapter MMRP <i>Mitigation Monitoring and Reporting Program</i>	The Mitigation Monitoring and Reporting Program (MMRP) for the project is included as a chapter of the Final EIR. The MMRP is presented in table format and identifies mitigation measures for the proposed project, the party responsible for implementing the mitigation measures, the timing of implementing the mitigation measures, and the monitoring and reporting procedures for each mitigation measure (State CEQA Guidelines Section 15097).
VOLUME II	
<i>Draft EIR</i>	Volume II of the Final EIR contains the Draft EIR that was previously circulated for public review. The Draft EIR contains all the contents described within CEQA and the State CEQA Guidelines, Article 9. The Draft EIR is included on the enclosed CD, as Volume II of the Final EIR. A hard copy is available at the District Clerk's office.
VOLUME III	
<i>Draft EIR Technical Appendices</i>	Volume III of the Final EIR consists of Appendices A through K of the Draft EIR. The appendices include additional background information and technical detail for several of the resource areas, as well as the Initial Study/Notice of Preparation and any comments received during the scoping process. The technical appendices to the Draft EIR are included on the enclosed CD, as Volume III of the Final EIR. A hard copy is available at the District Clerk's office.
Under Separate Cover	
<i>Findings of Fact and Statement of Overriding Considerations</i>	Provides findings on each significant impact and alternative, accompanied by a brief explanation of the rationale for each finding. The findings are supported by substantial evidence in the record (State CEQA Guidelines Section 15091). The statement of overriding considerations provides a written statement related to balancing, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project (State CEQA Guidelines Section 15093).

2.1 Project Overview

The proposed San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (herein referred to as the proposed project) consists of (1) an ordinance establishing a San Diego Unified Port District (District) Code section (proposed ordinance) to govern existing and proposed new fireworks display events that occur throughout the year in and around San Diego Bay and Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District. Discretionary actions for fireworks display events that may require District approval include, but are not limited to, the following:

- Sponsorship agreement
- Special event permit
- Lease and lease amendment
- Tideland Use and Occupancy Permit
- Right of Entry Permit
- Coastal Act Categorical Determination of Exclusion
- Coastal Development Permit

Fireworks display events that require a discretionary action by the District or are operated by the District's tenants have been occurring on the Fourth of July and at other times throughout the year for more than a decade. The most prominent existing fireworks display events are the annual Fourth of July Big Bay Boom in San Diego Bay and the Fourth of July Imperial Beach Fireworks Show. Furthermore, the Fireworks Show Over Glorietta Bay is an existing display whose fireworks organizers may seek to obtain funding from the District in the future, which would require a discretionary action by the District. Existing fireworks display events that occur at other times throughout the year include those associated with the San Diego Symphony's Summer Pops concert series (multiple small displays) and the Our Lady of Rosary Church annual procession, along with the U.S.S. Midway Aircraft Carrier Museum (U.S.S. Midway Museum) (multiple small displays) and General Dynamics National Steel and Shipbuilding Company (NASSCO) displays. A description of the operational characteristics of each of these existing displays is provided in Tables 2-1 and 2-2 respectively, of Chapter 2, *Environmental Setting*, of the Draft Environmental Impact Report (EIR). These fireworks display events would be subject to the proposed ordinance. In addition, the four proposed new fireworks display events adjacent to the National City and Chula Vista Bayfronts are anticipated to require a future discretionary action by the District, as discussed further below.

2.1.1 Fireworks Display Event Locations

Existing Fireworks Display Events

Existing fireworks display events currently occur at several locations within San Diego Bay, a natural harbor and deep-water port in southern San Diego County, and the Imperial Beach Oceanfront. San Diego Bay is an active maritime environment that provides passage and berthing for numerous types of boats and vessels, including small recreational boats that moor at dock marinas and open anchorage marinas within the Bay, mid-sized vessels such as private yachts and harbor cruise boats, and large vessels that consist of naval ships, cruise ships, cargo ships, and shipping barges. Fireworks display events within San Diego Bay take place off Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), and the NASSCO ship repair facility. In addition, fireworks display events take place along the Coronado Bayfront within Glorietta Bay (an inlet of San Diego Bay adjacent to Coronado Island) and the Imperial Beach Oceanfront. A list of existing fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach annually and a summary of the activity associated with them are provided in Tables 2-1 and 2-2, respectively, of Chapter 2, *Environmental Setting*, of the Draft EIR.

Proposed New Fireworks Display Events

There are currently no fireworks display events along the National City or Chula Vista Bayfronts. Along the National City Bayfront, it is anticipated that future fireworks display events would take place from a barge within view of Pepper Park because Pepper Park is the closest publicly accessible gathering space near the National City Bayfront that could have a partial view of the fireworks display event. Pepper Park is located along Tidelands Avenue in National City. The site is adjacent to the Sweetwater Channel, north of the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street Fill to the south, south of the National City Marine Terminal, east of San Diego Bay, and west of Pier 32 Marina. Interstate 5 (I-5) runs northeasterly approximately 0.4 mile from the park site boundary. Pepper Park site access is provided via Tidelands Avenue, which turns into Goesno Place as it approaches the park. One fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the Bay and within view of Pepper Park.

Along the Chula Vista Bayfront, it is anticipated that fireworks display events would take place from a barge within view of both the Chula Vista Bayside Park and the Chula Vista Bayfront Park. Bayside Park is a waterfront park accessed by Bayside Parkway. It is bounded to the north by a boatworks facility, to the south by a man-made inlet that contains marinas, to the east by a recreational vehicle park, and to the west by San Diego Bay. Bayfront Park is on the south side of the man-made inlet and is bounded to the south and west by San Diego Bay and to the east by the marinas of the man-made inlet as well as vacant land. The park is accessed by Marina Way. I-5 is approximately 0.5 mile to the east of the Chula Vista Bayfront. A total of three fireworks display events (including one on the Fourth of July) along the Chula Vista Bayfront area are allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan and are anticipated to involve the placement of a single, temporary barge in the Bay in the vicinity of the two parks.

Proposed new fireworks display events are described below in more detail in Section 2.1.3, *Project Operations*.

2.1.2 Proposed Ordinance

As stated above, the proposed project consists of an ordinance to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants. The proposed draft ordinance that was provided in the Draft EIR is included as Appendix D in Volume III. Revisions to the proposed draft ordinance are included in Chapter 3, *Errata and Revisions*, of the Final EIR. The proposed ordinance addresses the following:

- Permit procedures and requirements for the conduct of fireworks displays
- Compliance with applicable federal, state, and local laws and regulations governing fireworks, including, but not limited to:
 - Code of Federal Regulations
 - Clean Water Act
 - California Health and Safety Code
 - California Code of Regulations
 - California Environmental Quality Act (CEQA)
 - California Coastal Act
- Compliance with applicable federal, state, and local plans and permits governing fireworks, including, but not limited to:
 - San Diego Regional Water Quality Control Board's General Permit for Public Display of Fireworks (Order No. R9-2011-0022)
 - District's Climate Action Plan
 - District's Stormwater Management and Discharge Control Code
 - Integrated Natural Resources Management Plan
 - Chula Vista Bayfront Master Plan Natural Resources Management Plan
- Consistency with the features and characteristics of each individual fireworks display event analyzed in this Draft EIR, including, but not limited to:
 - Allowable launch site locations for individual displays
 - Total pounds of fireworks for individual displays
 - Allowable shell size(s) for individual displays
 - Frequency of individual displays
 - Duration of individual displays

Compliance with the applicable mitigation measures identified in the Mitigation, Monitoring, and Reporting Program for the proposed project.

2.1.3 Project Operations

In addition to the existing fireworks display events, the proposed ordinance would govern four proposed new fireworks display events, including three displays along the Chula Vista Bayfront as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July display along the National City Bayfront. The three proposed fireworks display events along the Chula Vista Bayfront include one Fourth of July display and two non-Fourth of July displays. It is anticipated that the District would consider annually whether or not to provide event sponsorship and/or issue a Special Event Permit, Right-of-Entry Permit, Tideland Use and Occupancy Permit, Coastal Development Permit, Coastal Act Categorical Determination of Exclusion, or other similar approval for these proposed new fireworks display events. These proposed new fireworks display events are anticipated to last approximately 3 to 10 minutes for non-Fourth of July displays and 15 to 20 minutes for Fourth of July displays, and the fireworks are anticipated to be launched from barges within San Diego Bay. These proposed new fireworks display events would also be governed by the proposed ordinance. The proposed new fireworks display events are identified in Table 2-1, below.

Table 2-1. Proposed New Fireworks Display Events Requiring a Future Discretionary Action by the District

Time of Year	Approximate Number of Fireworks Display Events	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event	Approximate Shell Size
January–March	1	• Chula Vista ¹	3–10 minutes	2–8 inches
April–June	—	—	—	—
July–September	2	• Chula Vista ² • National City ²	15–20 minutes	3–8 inches
October–December	1	• Chula Vista ¹	3–10 minutes	2–8 inches
TOTAL³	4			

¹ Non-Fourth of July display (smaller display)
² Fourth of July display
³ Total includes three fireworks display events along the Chula Vista Bayfront, as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan.

Table 2-2 summarizes the total pounds of fireworks estimated in this Draft EIR for each proposed new fireworks display event. Because the proposed ordinance would require consistency with the features and characteristics of each individual fireworks display event analyzed in this Final EIR, including, but not limited to, the total pounds of fireworks and durations for individual displays, the values provided in Table 2-2 represent the maximum allowable pounds of fireworks and durations for the proposed new displays along the Chula Vista and National City Bayfronts assumed in this Final EIR. If an existing fireworks display event identified in Chapter 2, *Environmental Setting*, of the Draft EIR is proposed to be modified in the future, a new additional fireworks display event is proposed that was not analyzed in this Final EIR, or any of the characteristics provided in Table 2-1 and Table 2-2 (e.g., magnitude and/or duration) of the four proposed new fireworks display events

are proposed to be modified, the fireworks display event will be subject to additional environmental review, pursuant to State CEQA Guidelines Section 15168(c).

Table 2-2. Summary of Activity Associated with the Proposed Fireworks Display Events

Fireworks Display Event	Day of Event	Number of Events	Pounds of Fireworks per Event	Pounds of Fireworks Annually	Number of Barges Used per Event
Chula Vista Bayfront ¹	Fourth of July plus two other shows	3	456 ¹ 114 ²	684	1
National City Bayfront ¹	Fourth of July	1	456 ¹	456	1

Source: District 2016

¹ The total pounds of fireworks display events in the Chula Vista Bayfront and National City Bayfront areas on the Fourth of July is anticipated to be 456 pounds, similar to the Fourth of July Imperial Beach Fireworks Show.

² The total pounds of non-Fourth of July fireworks events estimated by scaling the Fourth of July Imperial Beach Fireworks Show (20-minute event) by the number of minutes for each fireworks display event (assumed to average 5 minutes), which equals an estimated 114 pounds each.

Both existing and proposed new fireworks display events involve coordination between several agencies, organizations, and businesses, as detailed below. The definitions below pertain to terminology used in the description of fireworks display events in the following paragraphs and throughout this EIR.

- *Sponsor* generally refers to an individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency, or other legal entity, or the agent or employee thereof, that contributes funds, services, or other similar goods to a *fireworks organizer* in support of a fireworks display event. The District has historically been a *sponsor* of several of the fireworks display events described below.
- *Fireworks organizer* generally refers to the individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency, or other legal entity, or the agent or employee thereof, proposing to conduct a fireworks display event. The *fireworks organizer* is typically responsible for obtaining all required funding, entitlements, and approvals for a fireworks display event, as well as contracting with a *fireworks operator* to produce the fireworks display event. Historically, the District has entered into agreements with *fireworks organizers* in order to *sponsor* several of the fireworks display events described below.
- *Fireworks operator* generally refers to a State of California–licensed pyrotechnic operator who, by examination, experience, and training, has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted. A *fireworks operator* is typically responsible for supplying, setting up, and detonating the pyrotechnic devices associated with a fireworks display event. The *fireworks operator* is also typically under contract with the *fireworks organizer* to produce the fireworks display event. Historically, the District has not had a direct relationship with the *fireworks operator*.

All existing and proposed new fireworks display events that either require a discretionary action by the District or that are operated by the District’s tenants would be subject to all applicable federal,

state, and local laws and regulations governing fireworks as well as any additional requirements set forth in the proposed ordinance.

2.2 Project Alternatives

Alternatives analyzed in Chapter 7, *Alternatives*, of the Draft EIR include the No Project Alternative, the Quiet Fireworks Display Events Alternative, and the No Salute Fireworks Alternative. Pursuant to CEQA, the EIR is required to identify the environmentally superior alternative. Although the No Project Alternative reduces the greatest number of significant impacts, CEQA requires that when the environmentally superior alternative is the No Project Alternative, another alternative should be identified. Therefore, as indicated in Table 7-2 of Chapter 7, *Alternatives to the Proposed Project*, of the Draft EIR, the Quiet Fireworks Display Event Alternative would be the environmentally superior alternative. Because it would involve the use of quieter fireworks, the Quiet Fireworks Display Event Alternative would reduce the amount of noise generated by the proposed new fireworks display events, and therefore would reduce significant and unavoidable noise impacts compared to the proposed project. Therefore, as documented throughout the alternatives section, impacts associated with other resources, such as light and glare, biological resources, and transportation, circulation, and parking, would also be reduced. However, the Quiet Fireworks Display Events Alternative would not meet the fundamental project objectives.

Table 2-3 below presents the impacts associated with the proposed project compared with the alternatives.

Table 2-3. Summary Impacts of Alternatives Relative to the Proposed Project

Environmental Resource	Proposed Project	No Project (Alt 1)	Quiet Fireworks Display Events (Alt 2)	No Salute Fireworks (Alt 3)
Aesthetics and Visual Resources	Less than Significant	-2	-1	0
Air Quality and Health Risk	Less than Significant w/Mitigation	-2	+1	0
Biological Resources	Less than Significant w/Mitigation	-1	-1	-1
Greenhouse Gas Emissions, Climate Change, and Energy Use	Less than Significant	-1	0	0
Hazards and Hazardous Materials	Less than Significant	-1	0	0
Hydrology and Water Quality	Significant and Unavoidable	-1	0	0
Land Use and Planning	Less than Significant	-1	0	0
Noise and Vibration	Significant and Unavoidable	-2	-2	-1
Public Services and Facilities	Less than Significant	-2	0	0
Transportation, Circulation, and Parking	Significant and Unavoidable	-2	-1	0
Other Impacts	Less than Significant/No Impact	0	0	0
Total:¹		-15	-4	-2

Legend:

-2 = Substantially Reduced

-1 = Reduced

0 = Similar

+1 = Greater

+2 = Substantially Greater

¹ Lowest score is environmentally superior

2.3 Impact Summary

The proposed project would result in significant project impacts related to air quality and health risk, biological resources, hydrology and water quality, noise and vibration, and transportation, circulation and parking. The project would contribute to cumulative impacts related to air quality and health risk, biological resources, and hydrology and water quality. Table 2-4 presents the significant impacts, the proposed mitigation measures, and the level of significance after mitigation.

Table 2-4. Project Impacts and Mitigation Measures

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.1 Aesthetics and Visual Resources				
Project Impacts				
New Source of Substantial Light or Glare	<i>Proposed New Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	Implementation of the proposed new fireworks display events would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	The effects of the proposed ordinance on existing fireworks display events would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.			
Cumulative Impacts				
The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative aesthetics and visual resources impacts would not be cumulatively considerable.				
4.2 Air Quality and Health Risk				
Project Impacts				
Conflict with an Air Quality Management Plan	<i>Proposed New Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	Implementation of the proposed new fireworks display events would not conflict with or obstruct implementation of an applicable air quality plan.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	The effects of the proposed ordinance on existing fireworks display events would not conflict with or obstruct			

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Violate Air Quality Standard	<p>implementation of an applicable air quality plan.</p> <p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-AQ-1: Emissions in Excess of PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events. Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County Significance Level Thresholds (SLTs) for particulate matter 2.5 microns or less in diameter (PM2.5). The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by the San Diego Air Pollution Control District (SDAPCD) to attain the PM2.5 National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).</p>	PS	<p>MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events in Compliance with the Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(c) Size of Fireworks Display Events.</p> <ul style="list-style-type: none"> D. National City Fourth of July, not to exceed 400 pounds of fireworks E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks <p>MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <ol style="list-style-type: none"> 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			shall be shut down when not in use. (d) Fireworks Chemical Composition and Packaging. 1. Chemical Composition. B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available.	
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.	LS	No mitigation is required.	N/A
<i>Proposed New Fireworks Display Events</i>				
Cumulatively Considerable Criteria Pollutant Contribution under an Ambient Air Quality Standard	Impact-AQ-2: Cumulative Emissions in Excess of PM2.5 Thresholds During Combined Fourth of July Fireworks Display Events. Project emissions during new Fourth of July fireworks display events, before mitigation, would exceed the threshold for PM2.5 and, when combined with other nearby past, present, and probable future projects, may result in a cumulatively considerable net increase of a criteria pollutant for	PS	Implement MM-AQ-1 and MM-AQ-2 .	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>which the region is in nonattainment under an applicable state ambient air quality standard. The contribution of project-related emissions is considered significant because the proposed project would exceed thresholds that have been set by SDAPCD to attain the CAAQS during Fourth of July fireworks display events.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not result in a cumulatively considerable net increase in a nonattainment pollutant.</p>	LS	No mitigation is required.	N/A
Sensitive Receptors	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not expose sensitive receptors to substantial pollutant concentrations.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not expose sensitive receptors to substantial pollutant concentrations.</p>	LS	No mitigation is required.	N/A
Objectionable Odors	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not create objectionable odors affecting a substantial number of people.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	would not create objectionable odors affecting a substantial number of people.			
Cumulative Impacts				
Criteria Pollutants	<i>Proposed New Fireworks Display Events</i>			
	<p>Impact-C-AQ-1: Emissions in Excess of Cumulative PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events. Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County SLTs for PM2.5. The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by SDAPCD to attain the PM2.5 NAAQS and CAAQS.</p>	PS	Implement MM-AQ-1 and MM-AQ-2	LS
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not contribute to cumulative air quality and health risk impacts, and would be less than cumulatively considerable.	LS	No mitigation is required	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.3 Biological Resources				
Project Impacts				
Candidate, Sensitive, or Special-Status Species	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-BIO-1: Potential Direct Impact on Marine Reptiles from Fireworks-Generated Trash and Debris. The introduction of fireworks-generated trash and debris could cause injury to green sea turtles because the turtles may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Direct impacts on green sea turtles from fireworks-generated trash and debris that enter the water may be significant.</p> <p>Impact-BIO-2: Potential Indirect Impacts on Marine Reptiles from Increased Human and Boating Activity. The increase in boat traffic, particularly nighttime and out-of-channel traffic, would increase the potential for propeller strikes, which may cause injury to or death of green sea turtles. Increased boating activities could cause the animals to temporarily depart the project area before, during, and after the time of the proposed new fireworks display events to avoid higher vessel traffic. The increase in activity may also affect the turtles' foraging habits in that individuals may spend more time underwater, swim at greater speeds, and alter other life history traits leading to greater energy expenditure. The introduction of</p>	PS	<p>MM-BIO-1: Implementation of Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <p>2. Packaging.</p> <p>A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event.</p> <p>B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety</p>	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>human-generated trash could also cause injury to turtles if they mistakenly consume the waste, causing suffocation, starvation, or debilitation. These potential indirect impacts on marine reptiles may be significant.</p> <p>Impact-BIO-3: Potential Direct Impact on Avian Species from Fireworks-Generated Trash and Debris. The introduction of fireworks-generated trash and debris could cause injury to avian species because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Direct impacts on avian species from fireworks-generated trash and debris that enter the water may be significant.</p> <p>Impact-BIO-4: Potential Indirect Impacts on Special-Status Avian Species from Increased Human and Boating Activity. The proposed new fireworks display events have the potential to result in indirect impacts on special-status avian species, particularly California least tern and western snowy plover, as a result of increased foot traffic on sand dunes and beaches that can cause disturbance to nesting sites during and immediately after the proposed new fireworks display events. Additional indirect impacts potentially include increased trash associated with human use and noise associated with boating activity adjacent to nesting sites. The</p>		<p>issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.</p> <ol style="list-style-type: none"> 2. Fireworks shall be brought to the barge and loaded in their U.S. Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the fireworks launch area to contain debris. 3. Wires from the electric match placed in the Fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>introduction of human-generated trash could also cause injury to special-status birds because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. While many nesting sites for California least tern and western snowy plover in San Diego Bay are behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of nesting and roosting areas may be significant.</p>		<p>No loose material shall be allowed on the barges during the fireworks display event.</p> <ol style="list-style-type: none"> 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway. 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. 7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment. 8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.</p> <p>9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.</p> <p>10. Within ten (10) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<ul style="list-style-type: none"> (i) Compliance with San Diego Water Board General Permit. <ul style="list-style-type: none"> 1. Prior to the Executive Director’s issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit. 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article. 3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board. (j) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.</p> <p>(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant’s failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p> <p>MM-BIO-2: Implementation of Biological Resources–Related Conditions of the Proposed Ordinance for Indirect Impacts. The fireworks organizer and operator are required to comply with the following biological resources–related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Species and Habitat. The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 3. Security. For fireworks display events with public viewing areas (i.e., parks, promenades, 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays. In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay.</p> <p>4. Signage. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the fireworks organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.</p> <p>5. Education. Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using daily announcements on social media, press</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to remind viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p> <p>MM-BIO-4: Fireworks Biological Monitoring Plan. Not less than 30 days before any fireworks display event in the South Bay that would occur within 1 mile of sensitive avian nesting colonies, the fireworks organizer shall submit to the District an Avian Species Nesting Colony Monitoring Plan (Monitoring Plan). The Monitoring Plan shall be prepared by a qualified biologist and approved by the District in coordination with USFWS and CDFW. A qualified biologist is a person who, by reason of his or her knowledge of the natural sciences and the principles of wildlife biology,</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>acquired by education and experience. The Monitoring Plan shall identify the monitoring protocol that will be used to assess the effectiveness of mitigation measures MM-BIO-1 and MM-BIO-2 and shall, at a minimum, include the following:</p> <ol style="list-style-type: none"> 1. A literature review which refines the proposed methodology. 2. A list of target species identified for each individual event based on the season of the event, proximity of the event to nesting colonies, sensitivity of species, and capacity for the fireworks display event to cause species disturbance/effects. 3. Species behavior and noise data shall be collected at least 1 hour prior to, during, and 1 hour after the fireworks display event. 4. Documentation of the following data: <ol style="list-style-type: none"> a. Site location, name of monitor, date and time of observations b. Number of adults, nests, and chicks observed within one-half mile of spectator viewing areas c. Sources of stressors (e.g., light, noise, trespass, debris) d. Unauthorized access within nesting colonies e. Counts of illegal pyrotechnics <p>Within 30 days following the completion of the fireworks display event, the qualified biologist shall prepare a Monitoring Report for submittal to the District that details the findings of the monitoring results. This report shall include background/ introduction, methods, results, discussion, and recommendations sections. The District shall provide a copy of the report to the USFWS and CDFW and shall coordinate with these agencies regarding the results</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
and recommendations of the report. Based on the review of the reports for two consecutive years of monitoring, the District, in coordination with these agencies, shall determine whether continued monitoring is required.				
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not have an adverse effect on candidate, sensitive, or special-status species.	LS	No mitigation is required.	N/A
Sensitive Natural Community/ Federally Protected Wetlands	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-BIO-5: Potential Direct Impact on Sensitive Habitat and Wetlands from Fireworks-Generated Trash and Debris. The waste resulting from exploded fireworks shells could fall primarily into the waters of San Diego Bay. It is anticipated that some of this debris could sink to the bottom, and a smaller amount could wash onto adjacent beaches and shorelines. Direct impacts on sensitive habitats and federally protected wetlands of south San Diego Bay from fireworks-generated trash and debris that enter the water are considered significant.</p> <p>Impact-BIO-6: Potential Direct Impact on Eelgrass Habitat from Fireworks Barges and Tugboat Activity. The positioning of fireworks barges along the Chula Vista Bayfront over the shallow flats could result in direct impacts on eelgrass habitat and</p>	PS	<p>Implement MM-BIO-1, MM-BIO-2, and MM-BIO-4.</p> <p>MM-BIO-3: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Eelgrass Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(g) Eelgrass Avoidance and Mitigation. For fireworks display events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed</p>	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>its nursery habitat functions, particularly at low tides. Impacts could occur as a result of temporary grounding or settling of barges and tugboats on the bottom at low tide. Additional impacts could occur from propeller wash or propeller drag from tugboats during barge maneuvering. Tugboats have large propellers and high thrust capacity that could dredge up eelgrass in shallow waters, even if grounding does not occur. Potential direct impacts on eelgrass habitat are considered significant.</p> <p>Impact-BIO-7: Potential Indirect Impact on Sensitive Habitat and Wetlands from Increased Human and Boating Activity. Increased boat traffic could result in minor damage to eelgrass beds through unauthorized anchoring and/or propeller dragging. Additionally, visitors that view the proposed new fireworks display events from kayaks or personal watercraft could drag these watercraft onto shorelines adjacent to coastal salt marshes and inadvertently damage eelgrass or marsh habitat. The proposed new fireworks display events could attract crowds to the Silver Strand State Beach, some of whom may trespass into restricted beach areas that are utilized by sensitive avian species. Potential impacts on habitats include trampling of vegetation and an increase of human-generated trash and</p>		<p>not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	litter. Indirect impacts on sensitive habitat and wetlands of south San Diego Bay would be significant.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not have a substantial adverse effect on riparian habitat and/or other sensitive natural communities or wetlands.	LS	No mitigation is required.	N/A
Interference with Wildlife Movement	<i>Proposed New Fireworks Display Events</i>			
	<p>Impact-BIO-8: Potential Indirect Impact on Usage of Nursery Sites from Increased Human Activity.</p> <p>Indirect impacts on protected avian species from proposed new fireworks display events, such as increased foot traffic in or adjacent to nesting sites, increased human-generated trash, and noise associated with boating activity, are potentially a greater threat than direct impacts. While many nesting sites for California least tern and western snowy plover in San Diego Bay are located behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts of proposed new fireworks display events on usage of nursery sites are considered potentially significant due to disturbance noted in nesting birds.</p>	PS	Implement MM-BIO-2 and MM-BIO-4	LS
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<p>Conflicts with Local Policies or Ordinances Protecting Biological Resources/ Conflicts with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other Approved Local, Regional, or State Habitat Conservation Plan.</p>	<p>on existing fireworks display events would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.</p> <p><i>Proposed New Fireworks Display Events</i></p>	PS	Implement MM-BIO-1, MM-BIO-2, and MM-BIO-4	LS
	<p>Impact-BIO-9: Potential Conflict with the City of San Diego and Chula Vista MSCP Subarea Plans. The proposed new fireworks display events have the potential to result in significant direct and indirect impacts on habitat within the City of San Diego Multi-Habitat Planning Area and City of Chula Vista Multiple Species Conservation Program (MSCP) Preserve. Any impacts, whether direct or indirect, would be significant. Consequently, the proposed project would have the potential to conflict with the City of San Diego and City of Chula Vista MSCP Subarea Plans.</p> <p>Impact-BIO-10: Potential Conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. The proposed new fireworks display events have the potential to result in direct and indirect impacts on sensitive habitat and green sea turtles present within the San Diego Bay National Wildlife Refuge, which would be considered significant. Consequently, the proposed project would have the potential to conflict</p>			

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not conflict with applicable local policies or ordinances protecting biological resources, or with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.	LS	No mitigation is required.	N/A
Cumulative Impacts				
Sensitive Habitat	<i>Proposed New Fireworks Display Events</i>			
	Impact-C-BIO-1: Cumulatively Considerable Accumulation of Trash and Debris in Upland and Marine Habitats. The proposed new fireworks display events have the potential to directly and indirectly contribute to a cumulatively considerable accumulation of trash and debris in upland and marine habitats when combined with past, present, and reasonably foreseeable future projects.	PS	Implement mitigation measures MM-BIO-1, MM-BIO-2, and MM-BIO-4.	LS
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative biological resources impacts, and therefore would not be cumulatively considerable.			

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.4 Greenhouse Gas Emissions, Climate Change, and Energy				
Project Impacts				
Direct and Indirect Generation of GHGs by 2020	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in direct or indirect impacts related to the generation of greenhouse gases (GHGs) by 2020.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in direct or indirect impacts related to the generation of GHGs by 2020.	LS	No mitigation is required.	N/A
Effects from Climate Change on Project	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not place people or structures at substantial risk of harm due to predicted climate change effects, including sea level rise.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not place people or structures at substantial risk of harm due to predicted climate change effects, including sea level rise.	LS	No mitigation is required.	N/A
Energy	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in the wasteful, inefficient, or	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	unnecessary use of energy and would not require construction of new energy system infrastructure.			
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not result in the wasteful, inefficient, or unnecessary use of energy and would not require construction of new energy system infrastructure.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative GHG and energy impacts would not be cumulatively considerable.

4.5 Hazards and Hazardous Materials

Project Impacts

Routine Transport, Use, or Disposal of Hazardous Materials	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LS	No mitigation is required.	N/A
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Accidental Release of Hazardous Materials	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not create a significant hazard to the public or the environment through the release of hazardous materials associated with fireworks.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not create a significant hazard to the public or the environment through the release of hazardous materials associated with fireworks.	LS	No mitigation is required.	N/A
Emergency Plans	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display event and the proposed ordinance to cumulative hazard and hazardous materials impacts would not be cumulatively considerable.

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.6 Hydrology and Water Quality				
Project Impacts				
Water Quality Standards and Requirements	<i>Proposed New Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	Implementation of the proposed new fireworks display events would not violate any water quality standards or waste discharge requirements.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	The effects of the proposed ordinance on existing fireworks display events would not violate any water quality standards or waste discharge requirements.			
Otherwise degrade water quality.	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-WQ-1: Surface Water Pollutant Related to Fireworks Debris. There is a potential for the proposed fireworks display events to pollute surface waters if fireworks debris is not properly recovered, which would be considered a significant impact.</p> <p>Impact-WQ-2: Surface Water Pollutant Related to Increased Human-Generated Trash and Litter. There is a potential for publicly advertised fireworks display events to pollute surface waters if increased human-generated trash and litter within the major public viewing areas is not properly disposed of and cleaned up, which would be considered a significant impact.</p>	PS	<p>MM-WQ-1: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Fireworks Debris. The fireworks organizer and operator are required to comply with the following water quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <ol style="list-style-type: none"> 1. Chemical Composition. <ol style="list-style-type: none"> B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not 	<p>Impact-WQ-1: SU</p> <p>Impact-WQ-2: LS</p>

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>commercially available.</p> <p>2. Packaging.</p> <p>A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event.</p> <p>B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.</p> <p>2. Fireworks shall be brought to the barge and loaded in their U.S. Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.</p> <ol style="list-style-type: none"> 3. Wires from the electric match placed in the fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event. 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway. 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<ol style="list-style-type: none"> 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. 7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment. 8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal. 9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.</p> <p>10. Within ten (10) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the dry weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p> <p>(i) Compliance with San Diego Water Board General Permit.</p> <ol style="list-style-type: none"> 1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit. 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article.</p> <p>3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.</p> <p>(i) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.</p> <p>(j) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant’s failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p> <p>MM-WQ-2: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter. The fireworks organizer and operator are required to comply with the following water quality-related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(f) Best Management Practices. Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p>	
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	<p>The effects of the proposed ordinance on existing fireworks display events would not degrade water quality</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Create or Contribute Runoff Water	<i>Proposed New Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	The proposed new fireworks display events would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	The effects of the proposed ordinance on existing fireworks display events would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.			
Cumulative Impacts				
Water Quality Standards and Requirements/ Stormwater Runoff/Water Quality	<p>Impact-C-WQ-1: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Debris. There is a potential that the proposed new fireworks display events could contribute to an accumulation of fireworks debris when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade surface water quality if fireworks debris is not properly recovered. Potential impacts on water quality would be cumulatively considerable.</p> <p>Impact-C-WQ-2: Contribute to a</p>	PS	Implement MM-WQ-1 and MM-WQ-2 .	<p>Impact-C-WQ-1: SU</p> <p>Impact-C-WQ-2: LS</p>

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>Cumulatively Considerable Water Quality Impact from an Accumulation of Trash and Litter. There is a potential that the proposed new fireworks display events could contribute to an accumulation of trash and litter in San Diego Bay when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade water quality. Potential impacts on water quality would be cumulatively considerable.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative impacts related to hydrology and water quality, and therefore would not be cumulatively considerable.</p>	LS	No mitigation is required.	N/A
4.7 Land Use and Planning				
Project Impacts				
<p>Land Use Plans, Policies, or Regulations</p>	<p><i>Proposed New Fireworks Display Events</i> The proposed new fireworks display events would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.	LS	No mitigation is required.	N/A
Habitat Conservation Plan or Natural Community Conservation Plan	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan.	LS	No mitigation is required.	N/A
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan.	LS	No mitigation is required.	N/A
Cumulative Impacts				
The contribution of the proposed new fireworks display events and the proposed ordinance to land use impacts would not be cumulatively considerable.				
4.8 Noise and Vibration				
Project Impacts				
Generate noise levels in excess of established standards	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not expose persons to or generate noise levels in excess of standards established in the applicable city of Imperial Beach, Chula Vista, and National City municipal codes.	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not expose persons to or generate noise levels in excess of standards established in the applicable city of Imperial Beach, Chula Vista, and National City municipal codes.	LS	No mitigation is required.	N/A
Temporary Increase in Ambient Noise Levels	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact NOI-1: Substantial Periodic or Temporary Increase in Ambient Noise Levels of the Proposed New Fireworks Display Events. For proposed new fireworks display events (both Fourth of July and non-Fourth of July events), these noise increases would occur at homes and the Grand Caribe Shoreline Park in the City of Coronado, west of the proposed National City and Chula Vista launch locations. Depending on the precise location of the proposed Chula Vista launch barge, substantial noise increases due to the proposed new Fourth of July fireworks display events may also occur at Loews Coronado Bay Resort. If the ultimate location of the launch barge for the proposed Chula Vista fireworks display event is closer to the Chula Vista Bayfront than was assumed in the analysis, then it is possible some significant impacts could also occur within the City of Chula Vista. Because the proposed new fireworks display events would occur at locations</p>	PS	<p>MM-NOI-1: Implementation of Noise-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> <li>1. Location. Fireworks display events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches. <li>2. Salutes. Fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display). 	SU

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>that do not currently have similar fireworks displays, the affected noise-sensitive receptors are not currently exposed to similar levels of fireworks noise and the impacts would be significant. However, it is also noted that the impacts would be very infrequent (approximately three times per year) and would include the Fourth of July, which is a traditional nationwide event during which most people have a reasonable expectation and understanding that fireworks will occur.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not cause or contribute to any increase in ambient noise levels.</p>	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display events and the proposed ordinance to noise impacts would not be cumulatively considerable.

4.9 Public Services and Facilities

Project Impacts

<p>Fire Protection and Emergency Services</p>	<p><i>Proposed New Fireworks Display Events</i> Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service</p>	LS	No mitigation is required.	N/A
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Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	ratios, response times or other performance objectives for fire protection and emergency services.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.	LS	No mitigation is required.	N/A
Police Protection	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.			
Other Public Facilities	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for U.S. Coast Guard (USCG) protection services.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for USCG protection services.	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Cumulative Impacts				
The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative public services and facilities impacts would not be cumulatively considerable.				
4.10 Transportation, Circulation, and Parking				
Project Impacts				
Performance of the Circulation System	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not conflict with an applicable plan, ordinance, or policy establishing measures of performance of the circulation system.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable plan, ordinance, or policy establishing measures of performance of the circulation system.	LS	No mitigation is required.	N/A
Conflict with an applicable congestion management program	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not conflict with an applicable congestion management program including, but not limited to, level of service (LOS) standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Impacts would be less than significant.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>would not conflict with an applicable congestion management program including, but not limited to, LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Impacts would be less than significant.</p>			
Inadequate emergency access	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not result in inadequate emergency access.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not result in inadequate emergency access.</p>	LS	No mitigation is required.	N/A
Conflict with Alternative Transportation	<i>Proposed New Fireworks Display Events</i>			
	<p>Impact-TRA-1: Decrease in the Performance of Roadway, Pedestrian, and Bicycle Facilities from Proposed New Fireworks Display Events. The proposed new fireworks display events have the potential to temporarily decrease the performance of roadway, pedestrian, and bicycle facilities as a result of increased levels of vehicular, pedestrian, and bicycle activity. Potential impacts would be significant.</p>	PS	<p>MM-TRA-1: Implementation of the Transportation-Related Conditions of the Proposed Ordinance. The fireworks organizer is required to comply with the following transportation-related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(h) Event Transportation and Parking Management Plans. For all Fourth of July fireworks display events and for non-Fourth of July fireworks display events that are advertised to the public, the fireworks organizer shall prepare and submit an event transportation and parking management plan to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between</p>	SU

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The Event Transportation and Parking Management Plan shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:</p> <ol style="list-style-type: none"> 1. Transportation management strategies, including but not limited to a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which shall be implemented for the fireworks display event; and 2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, offsite parking arrangements, designated areas for taxi and rideshare pick-up/drop-off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations. <p>(i) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state, and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city that has jurisdiction over all or any part of the activity allowed under said Permit.	
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	LS	No mitigation is required.	N/A
Insufficient Parking	<i>Proposed New Fireworks Display Events</i>			
	Impact-TRA-2: Inadequate Parking Supply During Proposed New Fireworks Display Events. The proposed new fireworks display events have the potential to result in a temporary inadequate supply during the displays due to an increased demand on parking facilities serving the viewing locations. Potential impacts would be temporary, but are considered significant.	PS	Implement MM-TRA-1 .	SU
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not result in an inadequate supply of parking.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display event and the proposed ordinance to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable.

Notes: PS = Potentially significant; LS = Less than significant; SU = Significant and Unavoidable; N/A = Not applicable

2.4 Areas of Known Controversy/ Issues Raised by Agencies and the Public

Section 15123 of the State CEQA Guidelines requires the summary of an EIR to include areas of controversy known to the Lead Agency including issues raised by agencies and the public. The District circulated a Notice of Preparation (NOP) to solicit agency and public comments on the scope and content of the environmental analysis to be included in the Draft EIR beginning on August 7, 2015, and ending on September 8, 2015. The Initial Study/Environmental Checklist and NOP are included as Appendix A of the Draft EIR.

A total of seven comment letters were received during the NOP public review period. Comments received on the NOP primarily included concerns related air quality, biological resources, greenhouse gas emissions, hydrology and water quality, noise, and transportation and traffic. A summary of all comments received is included in Table 1-2 of Chapter 1, *Introduction*, of the Draft EIR, and all NOP comment letters are included in Appendix B of the Draft EIR.

A total of 10 comment letters were received during the Draft EIR public review period. Comments received on the Draft EIR included many similar concerns to those received during the NOP public review period. They included comments on air quality, biological resources, greenhouse gas emissions, hydrology and water quality, noise, and transportation and traffic. The comment letters and the District's responses are provided in Chapter 4, *Comments Received and District Responses*, of this Final EIR.

The Board of Port Commissioners will determine whether or not to adopt a Statement of Overriding Considerations for approval of the project identifying the benefits of the project that outweigh the significant and unavoidable impacts.

3.1 Introduction

This chapter reflects the modifications to the Draft EIR that may have resulted from comments received during the 45-day public review of the Draft EIR or that were required for purposes of clarification. These modifications do not alter the conclusions of the environmental analysis such that new significant environmental impacts have been identified, nor do they constitute significant new information. The modifications are provided by chapter and indicated with the page number from the Draft EIR. This chapter is intended to be used in conjunction with the analysis contained within the Draft EIR.

Additional text is shown as underlined and deleted text is shown in ~~striketrough~~.

Volumes II and III of this Final EIR include the Draft EIR and appendices, respectively.

3.2 EIR Chapter/Section Changes

3.2.1 Changes to *Executive Summary*

Page ES-2 and ES-3

There are currently no fireworks display events along the National City or Chula Vista Bayfronts. Along the National City Bayfront, it is anticipated that any future fireworks display events would take place within view of Pepper Park because Pepper Park is the closest publicly accessible gathering space near the National City Bayfront that would have a partial view of the fireworks. Pepper Park is located along Tidelands Avenue in National City. The site is adjacent to the Sweetwater Channel, north of the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street Fill to the south, south of the National City Marine Terminal, east of San Diego Bay, and west of Pier 32 Marina. Interstate 5 (I-5) runs northeasterly approximately 0.4 mile from the park site boundary. Pepper Park site access is provided via Tidelands Avenue, which turns into Goesno Place as it approaches the park. One fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the Bay and within view vicinity of Pepper Park.

ES-8 to ES-9

Alternative 2 – Quiet Fireworks Display Events Alternative

The Quiet Fireworks Display Events Alternative would require the proposed new fireworks display events along the National City and Chula Vista Bayfronts to be quiet fireworks display events that

would not exceed a noise limit of 120 A-weighted decibels (dBA).² For this type of fireworks display event, the pyrotechnicians design a fireworks package that relies on the quieter types of fireworks. These fireworks display events would eliminate the use of “salute,” ~~rocket, and mine~~ fireworks altogether (*salute* fireworks, also known as maroon fireworks, are fireworks designed to make a very loud bang, or “report,” and an intense flash of light), as well as any other fireworks that generate a loud report, and instead focus on rich color effects and tight visual choreography in order to garner similar entertainment value out of the display. Generally, fireworks used in quiet fireworks display events would include fountains, wheels, cakes (such as crossettes, comets, spinners or turbillions, colored stars, fish or bees, and falling leaves), Chinese lanterns, and lanceworks (United Kingdom Fireworks Review 2016). It is important to note that the use of these fireworks would create a quieter, but not a silent, fireworks display event. In addition, quiet fireworks display events would involve fireworks that are concentrated closer to the ground with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell. Therefore, while these fireworks display events would be in the same locations as those specified for the proposed project (as detailed in Chapter 3, *Project Description*), i.e., on barges, because quiet fireworks display events would rely on fireworks that cannot achieve the same heights or the same magnitude as traditional fireworks displays, they would not be as prominently visible and the viewing area would be smaller than that which exists for the proposed project. The Quiet Fireworks Display Events Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on nearby sensitive receptors.

Alternative 3 – No Salute Fireworks Alternative

Salute fireworks, which are fireworks specifically designed to create a loud bang and intense flash of light, are the loudest type of firework. The primary purpose of salute shells is to announce the beginning and end of the display and produce a loud, percussive effect. From a distance, these shells sound similar to cannon fire when detonated (NMFS 2006). While the noise level of these fireworks varies by type, a typical linear (unweighted) peak noise level directly below a 3-inch salute exploding at its normal altitude is 140 decibels (dB) (Journal of Pyrotechnics, Inc. 2012). The No Salute Fireworks Alternative would have the same characteristics as all of the fireworks display events that compose the proposed project, including the same total pounds of fireworks per event (as outlined in Table 3-2 in Chapter 3, *Project Description*), but would prohibit the use of salute fireworks (also known as maroon fireworks) and limit the noise produced by all fireworks during fireworks display events to a maximum of ~~140~~130 dB.³ ~~Rockets, mines, and a~~ All other firework types, including those described above under the Section 7.4.2.2, *Quiet Fireworks Display Event Alternative*, would be allowed as long as they do not exceed the ~~140~~130 dB noise limit. The No Salute Fireworks Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on sensitive receptors.

² 120 dBA maximum impulse sound pressure level due to the firework break(s), as measured at a horizontal distance of 15 meters from the ~~launch testing~~ point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.

³ ~~140~~130 dB linear (unweighted) peak sound pressure level due to the firework break(s), as measured at a horizontal distance of 15 meters from the launch point at a height of 1 meter above the ground, directly under the shell burst (break) occurring at its normal altitude, using a Type 1 sound measuring device with a free-field microphone ~~at a height of 1 meter above the ground~~.

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Table ES-3. Project Impacts and Mitigation Measures

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.1 Aesthetics and Visual Resources				
Project Impacts				
New Source of Substantial Light or Glare	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	LS	No mitigation is required.	N/A
Cumulative Impacts				
The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative aesthetics and visual resources impacts would not be cumulatively considerable.				
4.2 Air Quality and Health Risk				
Project Impacts				
Conflict with an Air Quality Management Plan	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not conflict with or obstruct implementation of an applicable air quality plan.	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not conflict with or obstruct implementation of an applicable air quality plan.	LS	No mitigation is required.	N/A
Violate Air Quality Standard	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-AQ-1: Emissions in Excess of PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events. Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County Significance Level Thresholds (SLTs) for particulate matter 2.5 microns or less in diameter (PM2.5). The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by the San Diego Air Pollution Control District (SDAPCD) to attain the PM2.5 National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).</p>	PS	<p>MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events in Compliance with the Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(c) Size of Fireworks Display Events.</p> <ul style="list-style-type: none"> D. National City Fourth of July, not to exceed 400 pounds of fireworks E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks <p>MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <ol style="list-style-type: none"> 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.	
			(d) Fireworks Chemical Composition and Packaging. <ol style="list-style-type: none"> 1. Chemical Composition. <ol style="list-style-type: none"> B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available. 	
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.	LS	No mitigation is required.	N/A
Cumulatively Considerable Criteria Pollutant Contribution under an Ambient Air Quality Standard	<i>Proposed New Fireworks Display Events</i> Impact-AQ-2: Cumulative Emissions in Excess of PM2.5 Thresholds During Combined Fourth of July Fireworks Display Events. Project emissions during new Fourth of July fireworks display events, before mitigation, would exceed the threshold for PM2.5 and, when combined with	PS	Implement MM-AQ-1 and MM-AQ-2 .	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>other nearby past, present, and probable future projects, may result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable state ambient air quality standard. The contribution of project-related emissions is considered significant because the proposed project would exceed thresholds that have been set by SDAPCD to attain the CAAQS during Fourth of July fireworks display events.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not result in a cumulatively considerable net increase in a nonattainment pollutant.</p>	LS	No mitigation is required.	N/A
Sensitive Receptors	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not expose sensitive receptors to substantial pollutant concentrations.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not expose sensitive receptors to substantial pollutant concentrations.</p>	LS	No mitigation is required.	N/A
Objectionable Odors	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not create objectionable odors affecting a</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	substantial number of people.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not create objectionable odors affecting a substantial number of people.	LS	No mitigation is required.	N/A
Cumulative Impacts				
Criteria Pollutants	<i>Proposed New Fireworks Display Events</i>			
	Impact-C-AQ-1: Emissions in Excess of Cumulative PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events. Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County SLTs for PM2.5. The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by SDAPCD to attain the PM2.5 NAAQS and CAAQS.	PS	Implement MM-AQ-1 and MM-AQ-2	LS
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not contribute to cumulative air quality and health risk impacts, and would be less than cumulatively considerable.	LS	No mitigation is required	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.3 Biological Resources				
Project Impacts				
Candidate, Sensitive, or Special-Status Species	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-BIO-1: Potential Direct Impact on Marine Reptiles from Fireworks-Generated Trash and Debris. The introduction of fireworks-generated trash and debris could cause injury to green sea turtles because the turtles may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Direct impacts on green sea turtles from fireworks-generated trash and debris that enter the water may be significant.</p> <p>Impact-BIO-2: Potential Indirect Impacts on Marine Reptiles from Increased Human and Boating Activity. The increase in boat traffic, particularly nighttime and out-of-channel traffic, would increase the potential for propeller strikes, which may cause injury to or death of green sea turtles. Increased boating activities could cause the animals to temporarily depart the project area before, during, and after the time of the proposed new fireworks display events to avoid higher vessel traffic. The increase in activity may also affect the turtles' foraging habits in that individuals may spend more time underwater, swim at greater speeds, and alter other life history traits leading to greater energy expenditure. The introduction of</p>	PS	<p>MM-BIO-1: Implementation of Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <p>2. Packaging.</p> <p>A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels <u>(excluding labels mandated by State or Federal laws)</u> from all fireworks to be used in the event.</p> <p>B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety</p>	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>human-generated trash could also cause injury to turtles if they mistakenly consume the waste, causing suffocation, starvation, or debilitation. These potential indirect impacts on marine reptiles may be significant.</p> <p>Impact-BIO-3: Potential Direct Impact on Avian Species from Fireworks-Generated Trash and Debris. The introduction of fireworks-generated trash and debris could cause injury to avian species because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Direct impacts on avian species from fireworks-generated trash and debris that enter the water may be significant.</p> <p>Impact-BIO-4: Potential Indirect Impacts on Special-Status Avian Species from Increased Human and Boating Activity. The proposed new fireworks display events have the potential to result in indirect impacts on special-status avian species, particularly California least tern and western snowy plover, as a result of increased foot traffic on sand dunes and beaches that can cause disturbance to nesting sites during and immediately after the proposed new fireworks display events. Additional indirect impacts potentially include increased trash associated with human use and noise associated with boating activity adjacent to nesting sites. The</p>		<p>issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.</p> <ol style="list-style-type: none"> 2. Fireworks shall be brought to the barge and loaded in their California U.S. Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the fireworks launch area to contain debris. 3. Wires from the electric match placed in the fireworks fuse shall be <u>secured to avoid strain (such as wrapped around nails that are installed on the racks, tied to the racks, or tied to the mortar)</u> to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>introduction of human-generated trash could also cause injury to special-status birds because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. While many nesting sites for California least tern and western snowy plover in San Diego Bay are behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of nesting and roosting areas may be significant.</p>		<p>barges during the fireworks display event.</p> <ol style="list-style-type: none"> 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway. 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. 7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment. 8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.</p> <p>9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.</p> <p>10. Within five-ten (510) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the <u>dry</u> weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p> <p>(i) Compliance with San Diego Water Board General</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>Permit.</p> <ol style="list-style-type: none"> 1. Prior to the Executive Director’s issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit. 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article. 3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board. <p>(j) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.</p> <p>(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant’s failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p> <p>MM-BIO-2: Implementation of Biological Resources–Related Conditions of the Proposed Ordinance for Indirect Impacts. The fireworks organizer and operator are required to comply with the following biological resources–related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Species and Habitat. The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 3. Security. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays. <u>In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay.</u></p> <p>4. Signage. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the fireworks organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.</p> <p>5. Education. Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using <u>daily announcements on social media</u>, press releases, and information posted at parks,</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to remind viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks operator organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p> <p><u>MM-BIO-4: Fireworks Biological Monitoring Plan.</u> <u>Not less than 30 days before any fireworks display event in the South Bay that would occur within 1 mile of sensitive avian nesting colonies, the fireworks organizer shall submit to the District an Avian Species Nesting Colony Monitoring Plan (Monitoring Plan). The Monitoring Plan shall be prepared by a qualified biologist and approved by the District in coordination with USFWS and CDFW. A qualified biologist is a person who, by reason of his or her knowledge of the natural sciences and the principles of wildlife biology, acquired by education and experience. The Monitoring Plan shall identify the monitoring protocol that will be</u></p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p><u>used to assess the effectiveness of mitigation measures MM-BIO-1 and MM-BIO-2 and shall, at a minimum, include the following:</u></p> <ol style="list-style-type: none"> 1. <u>A literature review which refines the proposed methodology.</u> 2. <u>A list of target species identified for each individual event based on the season of the event, proximity of the event to nesting colonies, sensitivity of species, and capacity for the fireworks display event to cause species disturbance/effects.</u> 3. <u>Species behavior and noise data shall be collected at least 1 hour prior to, during, and 1 hour after the fireworks display event.</u> 4. <u>Documentation of the following data:</u> <ol style="list-style-type: none"> a. <u>Site location, name of monitor, date and time of observations</u> b. <u>Number of adults, nests, and chicks observed within one-half mile of spectator viewing areas</u> c. <u>Sources of stressors (e.g., light, noise, trespass, debris)</u> d. <u>Unauthorized access within nesting colonies</u> e. <u>Counts of illegal pyrotechnics</u> <p><u>Within 30 days following the completion of the fireworks display event, the qualified biologist shall prepare a Monitoring Report for submittal to the District that details the findings of the monitoring results. This report shall include background/ introduction, methods, results, discussion, and recommendations sections. The District shall provide a copy of the report to the USFWS and CDFW and shall coordinate with these agencies regarding the results and recommendations of the report. Based on the review of the reports for two consecutive years of</u></p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<p><u>monitoring, the District, in coordination with these agencies, shall determine whether continued monitoring is required.</u></p>				
<p><i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i></p>				
	<p>The effects of the proposed ordinance on existing fireworks display events would not have an adverse effect on candidate, sensitive, or special-status species.</p>	LS	No mitigation is required.	N/A
Sensitive Natural Community/ Federally Protected Wetlands	<p><i>Proposed New Fireworks Display Events</i></p>			
	<p>Impact-BIO-5: Potential Direct Impact on Sensitive Habitat and Wetlands from Fireworks-Generated Trash and Debris. The waste resulting from exploded fireworks shells could fall primarily into the waters of San Diego Bay. It is anticipated that some of this debris could sink to the bottom, and a smaller amount could wash onto adjacent beaches and shorelines. Direct impacts on sensitive habitats and federally protected wetlands of south San Diego Bay from fireworks-generated trash and debris that enter the water are considered significant.</p> <p>Impact-BIO-6: Potential Direct Impact on Eelgrass Habitat from Fireworks Barges and Tugboat Activity. The positioning of fireworks barges along the Chula Vista Bayfront over the shallow flats could result in direct impacts on eelgrass habitat and its nursery habitat functions, particularly at low tides. Impacts could occur as a result of temporary</p>	PS	<p>Implement MM-BIO-1, and MM-BIO-2, and MM-BIO-4</p> <p>MM-BIO-3: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Eelgrass Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(g) Eelgrass Avoidance and Mitigation. For fireworks display events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs,</p>	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>grounding or settling of barges and tugboats on the bottom at low tide. Additional impacts could occur from propeller wash or propeller drag from tugboats during barge maneuvering. Tugboats have large propellers and high thrust capacity that could dredge up eelgrass in shallow waters, even if grounding does not occur. Potential direct impacts on eelgrass habitat are considered significant.</p> <p>Impact-BIO-7: Potential Indirect Impact on Sensitive Habitat and Wetlands from Increased Human and Boating Activity. Increased boat traffic could result in minor damage to eelgrass beds through unauthorized anchoring and/or propeller dragging. Additionally, visitors that view the proposed new fireworks display events from kayaks or personal watercraft could drag these watercraft onto shorelines adjacent to coastal salt marshes and inadvertently damage eelgrass or marsh habitat. The proposed new fireworks display events could attract crowds to the Silver Strand State Beach, some of whom may trespass into restricted beach areas that are utilized by sensitive avian species. Potential impacts on habitats include trampling of vegetation and an increase of human-generated trash and litter. Indirect impacts on sensitive habitat and wetlands of south San Diego Bay would be significant.</p>		<p>this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not have a substantial adverse effect on riparian habitat and/or other sensitive natural communities or wetlands.	LS	No mitigation is required.	N/A
Interference with Wildlife Movement	<i>Proposed New Fireworks Display Events</i>			
	<p>Impact-BIO-8: Potential Indirect Impact on Usage of Nursery Sites from Increased Human Activity.</p> <p>Indirect impacts on protected avian species from proposed new fireworks display events, such as increased foot traffic in or adjacent to nesting sites, increased human-generated trash, and noise associated with boating activity, are potentially a greater threat than direct impacts. While many nesting sites for California least tern and western snowy plover in San Diego Bay are located behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts of proposed new fireworks display events on usage of nursery sites are considered potentially significant due to disturbance noted in nesting birds.</p>	PS	Implement MM-BIO-1 and MM-BIO-2 and MM-BIO-4	LS
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not interfere substantially with the movement of native resident or	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.			
Conflicts with Local Policies or Ordinances Protecting Biological Resources/ Conflicts with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other Approved Local, Regional, or State Habitat Conservation Plan.	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-BIO-9: Potential Conflict with the City of San Diego and Chula Vista MSCP Subarea Plans. The proposed new fireworks display events have the potential to result in significant direct and indirect impacts on habitat within the City of San Diego Multi-Habitat Planning Area and City of Chula Vista Multiple Species Conservation Program (MSCP) Preserve. Any impacts, whether direct or indirect, would be significant. Consequently, the proposed project would have the potential to conflict with the City of San Diego and City of Chula Vista MSCP Subarea Plans.</p> <p>Impact-BIO-10: Potential Conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. The proposed new fireworks display events have the potential to result in direct and indirect impacts on sensitive habitat and green sea turtles present within the San Diego Bay National Wildlife Refuge, which would be considered significant. Consequently, the proposed project would have the potential to conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan.</p>	PS	Implement MM-BIO-1 , and MM-BIO-2 , and MM-BIO-4	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not conflict with applicable local policies or ordinances protecting biological resources, or with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.	LS	No mitigation is required.	N/A
Cumulative Impacts				
Sensitive Habitat	<i>Proposed New Fireworks Display Events</i>			
	Impact-C-BIO-1: Cumulatively Considerable Accumulation of Trash and Debris in Upland and Marine Habitats. The proposed new fireworks display events have the potential to directly and indirectly contribute to a cumulatively considerable accumulation of trash and debris in upland and marine habitats when combined with past, present, and reasonably foreseeable future projects.	PS	Implement MM-BIO-1 , and MM-BIO-2 , and MM-BIO-4	LS
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative biological resources impacts, and therefore would not be cumulatively considerable.			

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.4 Greenhouse Gas Emissions, Climate Change, and Energy				
Project Impacts				
Direct and Indirect Generation of GHGs by 2020	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in direct or indirect impacts related to the generation of greenhouse gases (GHGs) by 2020.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in direct or indirect impacts related to the generation of GHGs by 2020.	LS	No mitigation is required.	N/A
Effects from Climate Change on Project	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not place people or structures at substantial risk of harm due to predicted climate change effects, including sea level rise.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not place people or structures at substantial risk of harm due to predicted climate change effects, including sea level rise.	LS	No mitigation is required.	N/A
Energy	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in the wasteful, inefficient, or	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	unnecessary use of energy and would not require construction of new energy system infrastructure.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in the wasteful, inefficient, or unnecessary use of energy and would not require construction of new energy system infrastructure.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative GHG and energy impacts would not be cumulatively considerable.

4.5 Hazards and Hazardous Materials

Project Impacts

Routine Transport, Use, or Disposal of Hazardous Materials	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Accidental Release of Hazardous Materials	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not create a significant hazard to the public or the environment through the release of hazardous materials associated with fireworks.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not create a significant hazard to the public or the environment through the release of hazardous materials associated with fireworks.	LS	No mitigation is required.	N/A
Emergency Plans	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display event and the proposed ordinance to cumulative hazard and hazardous materials impacts would not be cumulatively considerable.

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.6 Hydrology and Water Quality				
Project Impacts				
Water Quality Standards and Requirements	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not violate any water quality standards or waste discharge requirements.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not violate any water quality standards or waste discharge requirements.	LS	No mitigation is required.	N/A
Otherwise degrade water quality.	<i>Proposed New Fireworks Display Events</i>			
	Impact-WQ-1: Surface Water Pollutant Related to Fireworks Debris. There is a potential for the proposed fireworks display events to pollute surface waters if fireworks debris is not properly recovered, which would be considered a significant impact.	PS	MM-WQ-1: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Fireworks Debris. The fireworks organizer and operator are required to comply with the following water quality-related conditions of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (d) Fireworks Chemical Composition and Packaging. 1. Chemical Composition. B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not	Impact-WQ-1: SU Impact-WQ-2: LS
	Impact-WQ-2: Surface Water Pollutant Related to Increased Human-Generated Trash and Litter. There is a potential for publicly advertised fireworks display events to pollute surface waters if increased human-generated trash and litter within the major public viewing areas is not properly disposed of and cleaned up, which would be considered a significant impact.			

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>commercially available.</p> <ol style="list-style-type: none"> 2. Packaging. <ol style="list-style-type: none"> A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels <u>(excluding labels mandated by State or Federal laws)</u> from all fireworks to be used in the event. B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited. (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up: <ol style="list-style-type: none"> 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use. 2. Fireworks shall be brought to the barge and loaded in their California <u>U.S.</u> Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.</p> <ol style="list-style-type: none"> 3. Wires from the electric match placed in the fireworks fuse shall be <u>secured to avoid strain (such as wrapped around nails that are installed on the racks, tied to the racks, or tied to the mortar)</u> to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event. 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway. 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<ol style="list-style-type: none"> 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. 7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment. 8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal. 9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.</p> <p>10. Within five-ten (510) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the <u>dry</u> weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p> <p>(i) Compliance with San Diego Water Board General Permit.</p> <ol style="list-style-type: none"> 1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit. 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article.</p> <p>3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.</p> <p>(i) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.</p> <p>(j) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant’s failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p>	
			<p>MM-WQ-2: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter. The fireworks organizer and operator are required to comply with the following water quality-related condition of the proposed ordinance.</p>	
			<p>Section X.07 – Permits – Conditions of Approval</p>	
			<p>(f) Best Management Practices. Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p>	
			<p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks operator <u>organizer</u> shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p>	
			<p><i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i></p>	
	<p>The effects of the proposed ordinance on existing fireworks display events would not degrade water quality</p>	<p>LS</p>	<p>No mitigation is required.</p>	<p>N/A</p>
			<p><i>Proposed New Fireworks Display Events</i></p>	
<p>Create or Contribute Runoff Water</p>	<p>The proposed new fireworks display events would not create or contribute</p>	<p>LS</p>	<p>No mitigation is required.</p>	<p>N/A</p>

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LS	No mitigation is required.	N/A
Cumulative Impacts				
Water Quality Standards and Requirements/ Stormwater Runoff/Water Quality	<p>Impact-C-WQ-1: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Debris. There is a potential that the proposed new fireworks display events could contribute to an accumulation of fireworks debris when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade surface water quality if fireworks debris is not properly recovered. Potential impacts on water quality would be cumulatively considerable.</p> <p>Impact-C-WQ-2: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Trash and Litter. There is a potential that the proposed</p>	PS	Implement MM-WQ-1 and MM-WQ-2 .	<p>Impact-C-WQ-1: SU</p> <p>Impact-C-WQ-2: LS</p>

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>new fireworks display events could contribute to an accumulation of trash and litter in San Diego Bay when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade water quality. Potential impacts on water quality would be cumulatively considerable.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative impacts related to hydrology and water quality, and therefore would not be cumulatively considerable.</p>	LS	No mitigation is required.	N/A
4.7 Land Use and Planning				
Project Impacts				
Land Use Plans, Policies, or Regulations	<i>Proposed New Fireworks Display Events</i>			
	<p>The proposed new fireworks display events would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable land use plan, policy, or regulation of an</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.			
Habitat Conservation Plan or Natural Community Conservation Plan	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan.	LS	No mitigation is required.	N/A
Cumulative Impacts				
The contribution of the proposed new fireworks display events and the proposed ordinance to land use impacts would not be cumulatively considerable.				
4.8 Noise and Vibration				
Project Impacts				
Generate noise levels in excess of established standards	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not expose persons to or generate noise levels in excess of standards established in the applicable city of Imperial Beach, Chula Vista, and National City municipal codes.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not expose persons to or generate noise levels in excess of	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Temporary Increase in Ambient Noise Levels	standards established in the applicable city of Imperial Beach, Chula Vista, and National City municipal codes.		<p>MM-NOI-1: Implementation of Noise-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 1. Location. Fireworks display events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches. 2. Salutes. Fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display). 	SU
	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact NOI-1: Substantial Periodic or Temporary Increase in Ambient Noise Levels of the Proposed New Fireworks Display Events. For proposed new fireworks display events (both Fourth of July and non-Fourth of July events), these noise increases would occur at homes and the Grand Caribe Shoreline Park in the City of Coronado, west of the proposed National City and Chula Vista launch locations. Depending on the precise location of the proposed Chula Vista launch barge, substantial noise increases due to the proposed new Fourth of July fireworks display events may also occur at Loews Coronado Bay Resort. If the ultimate location of the launch barge for the proposed Chula Vista fireworks display event is closer to the Chula Vista Bayfront than was assumed in the analysis, then it is possible some significant impacts could also occur within the City of Chula Vista. Because the proposed new fireworks display events would occur at locations that do not currently have similar fireworks displays, the affected noise-sensitive receptors are not currently exposed to similar levels of fireworks noise and the impacts would be</p>			

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>significant. However, it is also noted that the impacts would be very infrequent (approximately three times per year) and would include the Fourth of July, which is a traditional nationwide event during which most people have a reasonable expectation and understanding that fireworks will occur.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not cause or contribute to any increase in ambient noise levels.</p>	LS	No mitigation is required.	N/A
Cumulative Impacts				
<p>The contribution of the proposed new fireworks display events and the proposed ordinance to noise impacts would not be cumulatively considerable.</p>				
4.9 Public Services and Facilities				
Project Impacts				
<p>Fire Protection and Emergency Services</p>	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and emergency services.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.			
Police Protection	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	performance objectives for police protection.			
Other Public Facilities	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for U.S. Coast Guard (USCG) protection services.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for USCG protection services.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative public services and facilities impacts would not be cumulatively considerable.

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.10 Transportation, Circulation, and Parking				
Project Impacts				
Performance of the Circulation System	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not conflict with an applicable plan, ordinance, or policy establishing measures of performance of the circulation system.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable plan, ordinance, or policy establishing measures of performance of the circulation system.	LS	No mitigation is required.	N/A
Conflict with an applicable congestion management program	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not conflict with an applicable congestion management program including, but not limited to, level of service (LOS) standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Impacts would be less than significant.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable congestion management program including, but not limited to, LOS standards and travel demand measures,	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	or other standards established by the county congestion management agency for designated roads or highways. Impacts would be less than significant.			
Inadequate emergency access	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in inadequate emergency access.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in inadequate emergency access.	LS	No mitigation is required.	N/A
Conflict with Alternative Transportation	<i>Proposed New Fireworks Display Events</i>			
	Impact-TRA-1: Decrease in the Performance of Roadway, Pedestrian, and Bicycle Facilities from Proposed New Fireworks Display Events. The proposed new fireworks display events have the potential to temporarily decrease the performance of roadway, pedestrian, and bicycle facilities as a result of increased levels of vehicular, pedestrian, and bicycle activity. Potential impacts would be significant.	PS	MM-TRA-1: Implementation of the Transportation-Related Conditions of the Proposed Ordinance. The fireworks organizer is required to comply with the following transportation-related condition of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (h) Event Transportation and Parking Management Plans. For all Fourth of July fireworks display events and for non-Fourth of July fireworks display events that are advertised to the public, the fireworks organizer shall prepare and submit an event transportation and parking management plan to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The Event Transportation and Parking Management Plan	SU

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:</p> <ol style="list-style-type: none"> 1. Transportation management strategies, including but not limited to a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which shall be implemented for the fireworks display event; and 2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, offsite parking arrangements, designated areas for taxi and rideshare pick-up/drop-off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations. <p>(i) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state, and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city that has jurisdiction over all or any part of the activity allowed under said Permit.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	LS	No mitigation is required.	N/A
Insufficient Parking	<i>Proposed New Fireworks Display Events</i>			
	Impact-TRA-2: Inadequate Parking Supply During Proposed New Fireworks Display Events. The proposed new fireworks display events have the potential to result in a temporary inadequate supply during the displays due to an increased demand on parking facilities serving the viewing locations. Potential impacts would be temporary, but are considered significant.	PS	Implement MM-TRA-1 .	SU
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not result in an inadequate supply of parking.	LS	No mitigation is required.	N/A
Cumulative Impacts				
The contribution of the proposed new fireworks display event and the proposed ordinance to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable.				
Notes: PS = Potentially significant; LS = Less than significant; SU = Significant and Unavoidable; N/A = Not applicable				

3.2.2 Changes to Chapter 2, *Environmental Setting*

Page 2-12 to 2-13

National City Bayfront

While there are currently no existing fireworks display events along the National City Bayfront, it is anticipated that any future fireworks display events would take place within view of Pepper Park because Pepper Park is the closest publicly accessible gathering space near the National City Bayfront ~~that would have a partial view of the fireworks~~. Pepper Park is located along Tidelands Avenue in National City. The site is adjacent to the Sweetwater Channel, north of the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street Fill to the south, south of the National City Marine Terminal, east of San Diego Bay, and west of Pier 32 Marina. Interstate 5 (I-5) runs northeasterly approximately 0.4 mile from the park site boundary. Pepper Park site access is provided via Tidelands Avenue, which turns into Goesno Place as it approaches the park. One fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the ~~Bay and within view~~ vicinity of Pepper Park.

3.2.3 Changes to Chapter 4, Section 4.3, *Biological Resources*

Page 4.3-4 to 4.3-5

Existing fireworks display events that require a discretionary action by the District or that are operated by the District's tenants occur within and/or adjacent to the District's jurisdiction, particularly in and around the waters of San Diego Bay and the Pacific Ocean near Imperial Beach. Within San Diego Bay, these displays generally occur on barges, flight decks, and/or piers off of Shelter Island, Harbor Island, North Embarcadero, Central Embarcadero, South Embarcadero, within the Glorietta Bay inlet, and within the NASSCO ship repair facility. Within the Pacific Ocean, an existing fireworks display event occurs on the Imperial Beach Pier just off the coast of Imperial Beach. The environmental setting for the entire San Diego Bay and coastal Imperial Beach has been included in the existing conditions to provide context for the following impact analysis. The impact analysis then focuses on the portions of the Bay (e.g., the south Bay) likely to be affected by the proposed new fireworks displays.

The sites for the proposed new fireworks display events are within and/or adjacent to the District's jurisdiction within San Diego Bay along the National City and Chula Vista Bayfronts. These proposed new displays are anticipated to occur on barges ~~and/or piers~~ within these locations. The biological impact analysis focuses on the various habitats, wildlife corridors, and wildlife present within San Diego Bay adjacent to and in the vicinity of the National City and Chula Vista Bayfront areas.

Page 4.3-7

Subtidal Vegetated Habitat

The vegetated, shallow subtidal habitat of San Diego Bay is dominated by eelgrass. Additionally, small amounts of widgeon grass (*Ruppia maritima*) occur in the warmer, shallow flats of south San

Diego Bay. The baywide survey completed in 2014 indicated 1,996 acres of eelgrass is present within the Bay (Merkel & Associates, Inc. 2014c). Vegetated subtidal habitats are an essential component of Southern California's coastal marine environment. Eelgrass beds function as important habitat for a variety of invertebrate, fish, and avian species. For many species, eelgrass beds are an essential biological habitat component for at least a portion of their life cycles, providing resting and feeding sites along the Pacific Flyway for avian species, and nursery sites for numerous species of fish. Seagrass beds may be interspersed with red algae such as *Gracilaria verrucosa* and green algae, such as *Ulva* spp. Typical fish species associated with seagrass include pipefish (*Syngnathus* spp.), kelpfish (Family Clinidae), and surfperch (Family Embiotocidae) as well as schooling fish such as topsmelt (*Atherinops affinis*) and anchovy (*Anchoa* spp.). In addition, eelgrass beds are considered to be an important foraging resource for the resident population of eastern Pacific green sea turtles, a threatened species under the Endangered Species Act.

Page 4.3-9

Upland Transition and Upland Areas

As mentioned previously, the majority of shoreline within San Diego Bay is armored. However, upland transition areas, particularly along unarmored shorelines, provide important foraging, roosting, and nesting habitat for birds. Among the most important upland transition areas are supratidal sand dunes and beaches adjacent to, and protected by, intertidal flats, ponds, and marshes. These areas provide nesting habitat for additional sensitive avian species. Among these are tens of thousands of nesting waterbirds that make use of isolated uplands along the Bay margin between March and September each year. Nesting predominantly occurs on the levees within the South Bay Salt Works, on the D Street Fill, and on portions of the Chula Vista Wildlife Reserve Island. As an indication of scale of the shorebird and seabird use, the San Diego Bay Refuge is estimated by the USFWS to have supported over 60,000 waterbird nests for 16 species during 2016. Other transitional habitats adjacent to baylands include coastal scrub (maritime succulent scrub and sage scrub), created bay fills, and river mouths (where coastal salt marsh transitions to brackish, and riparian habitats). Ruderal lands supporting grasslands and saline flats are also present along the coastal strand environment. This is particularly true in the area of the Naval Outlying Field antenna array north of Imperial Beach Pier.

Page 4.3-10

Wildlife Corridors

The study area does not provide any terrestrial movement corridors, and no marine mammal, reptile, or fish migratory corridors occur within it. However, some marine fish species, such as anchovy, sardine, and topsmelt, likely move into and out of the Bay for spawning, nursery, and foraging. The southern portions of the Bay, including the South San Diego Bay Unit of the San Diego Bay NWR, which includes the ~~and~~ South Bay Salt Ponds, provide stopover habitat for migrating waterfowl and shorebirds. San Diego Bay and the Imperial Beach shoreline, like all of California, is located within the Pacific Flyway. Several whale species migrate along the coast of California, including the California gray whale (*Eschrichtius robustus*). The peak northward migration of male gray whales occurs in mid-March, followed 2 months later by the second migration wave, which is composed of cows and calves. Whales typically do not occur within the immediate nearshore coastal waters of Imperial Beach or the adjacent Bay environment.

Page 4.3-11

Birds

Four avian species listed by USFWS and/or CDFW as federally or state-listed as endangered or threatened have a high potential to occur within San Diego Bay and the Imperial Beach Oceanfront. These include California least tern (*Sternula antillarum browni*), western snowy plover (*Charadrius alexandrinus nivosus*), light-footed Ridgway's rail, and Belding's Savannah sparrow.

The California least terns nests along the west coast of North America, from Baja California, Mexico, north to the San Francisco Bay area. California least terns are seasonal residents of San Diego Bay, typically arriving in mid- to late-April to nest at several colonies adjacent to San Diego Bay, and are generally present through August with September 15 marking the end of the season. California least terns can have two waves of nesting during this time period (CDFW 2016). California least terns establish nesting colonies on sandy soils with little vegetation. Along the shores of San Diego Bay and south of the Imperial Beach Oceanfront, California least terns nest at multiple sites (Figure 4.3-2), including the runway ovals at San Diego International Airport; the airfield tarmac at Naval Air Station (NAS) North Island; on Delta and Echo Beaches at Naval Amphibious Base Coronado (NAB Coronado), which are managed by the U.S. Navy; ~~on the D Street Fill~~; at the Chula Vista Wildlife Reserve, managed by the San Diego Regional Airport Authority and District; on the D Street Fill, jointly managed by the District and USFWS; along the South Bay Salt Works levees and in Pond 11, ~~which are managed by the District and USFWS~~; and along the beach of the Tijuana River National Estuarine Research Reserve south of the Imperial Beach Oceanfront.

Page 4.3-12 to 4.3-13

Nesting by avian species occurs in many segments of San Diego Bay, from the urbanized North Bay to the less developed South Bay. However, the ambient nighttime environments vary substantially across the north to south gradient. This is best illustrated by considering the sensitive avian nesting areas (Figure 4.3-2). Within the North Bay, California least terns nest within active airfield colonies in highly urbanized settings. These areas are exposed to nighttime safety lighting, active flashing airport lighting, automobile headlights and security patrol lighting, as well as substantial skyglow from the adjacent downtown area. Conversely, at the far southern end of the Bay, nesting areas are generally separated from intensive light- and activity-producing land uses by large expanses of undeveloped lands. These include the salt works, Navy lands, and open Bay waters. Adjacent developed land uses in the area of the South Bay are principally residential, daytime industrial, and single-story commercial that does not face the Bay. As a result, nesting areas in this environment experience less overall illumination, including both direct illumination and indirect skyglow, than areas in the North Bay. These areas are also subject to lower overall nighttime disturbance by human activities.

Within nesting habitats, the physical characteristics of the habitat can further alter the light and disturbance levels that birds are subjected to under ambient conditions. Ground-nesting birds that nest on open terrain such as least terns and snowy plovers and several other seabirds and shorebirds are more directly exposed to light environments and other disturbances than are birds that nest within or under cover of vegetation that reduces the overall illumination at nesting sites and reduces risk of disturbance by activities in the area. As a result, differences in ambient nighttime conditions of lighting and disturbance, as well as the extent of nest site cover, both affect the

potential extent of disturbance nesting birds may experience from additional activities such as fireworks display events.

Page 4.3-16

Table 4.3-2. Sensitive Wildlife Species with Potential to Occur within San Diego Bay and Imperial Beach Oceanfront

Common Name (<i>Scientific Name</i>)	Sensitivity Code & Status	Potential to Occur
Marine Reptiles		
Green Sea Turtle (<i>Chelonia mydas</i>)	FT	Low Potential <u>High Potential: Green sea turtles are year-round residents of San Diego Bay with the greatest occurrence being in the South Bay</u>
Birds		
Brant (<i>Branta bernicla</i>)	CDFW SSC	High Potential: Winters in south Bay along Chula Vista Bayfront
California Brown Pelican (<i>Pelecanus occidentalis californicus</i>)	CDFW FP	Moderate Potential: No nesting, roosts on rip rap, docks, pilings, etc.
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	CDFW WL	High Potential: Nests in South Bay Salt Works
Northern harrier (<i>Circus cyaneus</i>)	CDFW SSC	Moderate <u>High</u> Potential: Nests in marshes in south Bay
Osprey (<i>Pandion haliaetus</i>)	CDFW WL	High Potential: Nests at NAS North Island and the Chula Vista Wildlife Reserve
American peregrine falcon (<i>Falco peregrinus anatum</i>)	CDFW FP, FWS BCC	Low Potential: May nest along Bayfront
Light-footed Ridgway's rail (<i>Rallus obsoletus levipes</i>)	CDFW FP, FWS BCC, FE, SE	High Potential: Nests in marshes of south Bay
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	FT	High Potential: Nests on sand flats of Bay
California Least tern (<i>Sternula antillarum browni</i>)*	FE, SE	High Potential: Nests on sand flats of Bay
Caspian tern (<i>Hydroprogne caspia</i>)	FWS BCC	High Potential: Nests in South Bay Salt Works
Black skimmer (<i>Rynchops niger</i>)	CDFW SSC	High Potential: Nests in South Bay Salt Works
Elegant tern (<i>Thalasseus elegans</i>)	CDFW WL	High Potential: Nests in South Bay Salt Works
Belding's Savannah sparrow (<i>Passerculus sandwichensis beldingi</i>)	SE	High Potential: Nests in marshes of south Bay and Tijuana Estuary
Mammals		
Pacific harbor seal (<i>Phoca vitulina richardsi</i>)	MMPA	Moderate Potential: Forages in north Bay and is uncommon in the south Bay
California sea lion (<i>Zalophus californianus californianus</i>)	MMPA	High Potential: Forages and loafs in the north Bay with uncommon occurrences in the south Bay
Coastal bottlenose dolphin (<i>Tursiops truncatus</i>)	MMPA	Moderate Potential: Uncommon forager in deep channels of the north Bay

Common Name (<i>Scientific Name</i>)	Sensitivity Code & Status	Potential to Occur
California gray whale (<i>Eschrichtius robustus</i>)	MMPA	Very Low Potential: Regular migrant in offshore waters, but uncommon in Bay and nearshore waters

Source: Appendix F

SE = state-listed as endangered; **FE** = federally listed as endangered; **FT** = federally listed as threatened; **CDFW SSC** = CDFW Species of Special Concern; **CDFW-FP** = CDFW Fully Protected Species; **CDFW-WL** = CDFW Watch List; **FWS-BCC** = USFWS Bird of Conservation Concern; **MMPA** = species protected by the Marine Mammal Protection Act

*Least terns are a migratory species found in the area from approximately April 1 through September 15 of each year.

Page 4.3-20

National Wildlife Refuge System Improvements Act of 1997

The National Wildlife Refuge System Improvements Act of 1997 amended the National Wildlife Refuge System Administration Act of 1966, and provides clear standards for management, use, planning, and growth of the National Wildlife Refuge System. The Improvement Act requires that each refuge be managed to fulfill the “wildlife first” mission of the National Wildlife Refuge System, as well as the specific purposes for which a refuge was established. In accordance with the Improvement Act, uses permitted on a National Wildlife Refuge must be determined to be an appropriate use and compatible with the mission of the National Wildlife Refuge System and Refuge purposes.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) was enacted to: declare a national policy that will encourage productive and enjoyable harmony between man and his environment; to promote efforts that will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality (CEQ) (42 U.S. Code § 4321). NEPA established the CEQ within the Executive Office of the President to ensure that federal agencies meet their obligations under NEPA. CEQ oversees NEPA implementation, principally through issuing guidance and interpreting regulations that implement NEPA’s procedural requirements. CEQ also reviews and approves federal agency NEPA procedures, approves alternative arrangements for compliance with NEPA for emergencies, and helps to resolve disputes between federal agencies and with other governmental entities and members of the public.

Page 4.3-28

Birds

Several studies have observed the behavioral changes of sensitive avian species during fireworks display events. A literature review of these existing studies and research was conducted, with the results summarized below. Four avian species that are federally or state-listed as endangered or threatened by USFWS and/or CDFW have a high potential to occur within and adjacent to San Diego Bay. These include California least tern, western snowy plover, light-footed Ridgway’s rail, and Belding’s Savannah sparrow. The nesting sites-habitat of these four species are within audible and visual range of the proposed new fireworks display events and have the potential to be affected.

Nesting areas for listed species are illustrated in Figure 4.3-2. Other avian species that are potentially affected include California brown pelican and double-crested cormorant, as these species nest and/or roost in the Bay. Several additional species of seabirds including terns and black skimmer nest at sites that also support California least tern. As such, these species may be similarly affected by the proposed new fireworks display events.

Page 4.3-34 to Page 4.3-35

Indirect impacts on sensitive avian species can include disturbance associated with increased boat and foot traffic in the vicinity of nesting and roosting locations, as well as human-generated trash. Fireworks spectators may trespass onto closed avian nest sites or roosting areas in order to obtain private viewing locations. This presently occurs at a low level during intensive Bay use periods such as summer holidays and weekends. However, under typical evenings, the trespass onto colony nesting sites by the public is low, particularly at night and the extent of vessel traffic in some areas of the Bay where birds tend to raft is generally low and substantially reduced at night when rafting by birds is most common. During the proposed new fireworks display events, however, the likelihood of trespass into colony sites would increase and vessel traffic after dark and out of established channels would be expected to increase.

The study on NAB Coronado (Boylan and Nordstrom 2014) suggests that increased boat and foot traffic, trespass, and human-generated trash and debris during fireworks display events were possibly a greater threat to sensitive avian species than those associated with temporary noise and light disturbances from the fireworks themselves. Boylan and Nordstrom noted that illegal fireworks ignited immediately adjacent to nesting colonies, as well as increased foot traffic on sand dunes and beaches, caused the majority of disturbance to nesting California least tern during and immediately after fireworks display events. Additional indirect impacts could include increased trash associated with human use and noise associated with boating activity adjacent to nesting sites. The introduction of human-generated trash could also cause injury to sensitive birds because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. While many nesting sites for California least tern and western snowy plover in and around San Diego Bay are behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of nesting and roosting areas may be significant (**Impact-BIO-4**). During fireworks display events, the Harbor Police Department currently assigns units to major patrol areas and deploys additional units on tidelands including bicycle and vessel units (Brick pers. comm.). The landside patrols provide law enforcement within the landside viewing areas, while the special patrol vessels provide law enforcement on the water. Consistent with its current operational practices, the Harbor Police Department would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events. These existing procedures ensure that boating laws are properly enforced in the Bay. In addition, the proposed ordinance contains several requirements that would reduce potential impacts on the biological resources of San Diego Bay. Implementation of **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance for indirect impacts, which include the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-2** would reduce potentially significant indirect impacts on avian species from human trespass, increased boat traffic, and human-generated trash and debris to less-than-significant levels.

Concerns for disturbance associated with vessel traffic extend beyond just nesting sites, but also extend to disruption of nighttime rafting activities of birds. Rafting birds may be displaced

temporarily by either increased vessel traffic in the vicinity of launch barges, or by the noise and light of the fireworks themselves. Increased boat traffic and fireworks displays would be expected to cause temporary displacement over short periods of time within areas that are centered on launch barges. This effect is substantially curtailed outside of the winter migratory period (November–February) due to an overall reduction in the number of birds rafting on the waters. Furthermore, rafting tends to be highest in waters of protected leeward environments or extreme shallows. Because vessel traffic and fireworks display event activities would be expected to be aggregated around launch barges that are proposed to be located further from shore as a result of nesting colony buffering distances, there is an expectation that the highest-density loafing areas would see little increase in vessel traffic disturbance. Any disturbance that is noted would be expected to result in birds on the water taking flight and moving away from the event areas. However, the extent of disturbance is expected to be relatively low, leading only to temporary, less-than-significant impacts on rafting birds.

Page 4.3-43 to 4.3-44

MM-BIO-1: Implementation of Biological Resources–Related Conditions of the Proposed Ordinance for Direct Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(d) Fireworks Chemical Composition and Packaging.

2. Packaging.

- A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event.
 - B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.
- (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:
1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.
 2. Fireworks shall be brought to the barge and loaded in their ~~California~~ U.S. Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with

- openings no larger than $\frac{1}{4}$ inch, around the perimeter of the Fireworks launch area to contain debris.
3. Wires from the electric match placed in the fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are ~~installed on the racks, tied to the racks, or tied to the mortar~~) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event.
 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event.
 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway.
 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. fireworks operators shall photograph the barge prior to and after cleaning.
 7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment.
 8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.
 9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.
 10. Within ~~five-ten~~ (510) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the dry weight of the fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch

site used in the fireworks display event to participate in the next scheduled “Operation Clean Sweep” or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.

Page 4.3-46 to 4.3-47

MM-BIO-2: Implementation of Biological Resources–Related Conditions of the Proposed Ordinance for Indirect Impacts. The fireworks organizer and operator are required to comply with the following biological resources–related condition of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

- (e) Protection of Species and Habitat. The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:
3. **Security.** For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays. In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay.
 4. **Signage.** For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the fireworks organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.
 5. **Education.** Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using daily announcements on social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to reminds viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).
- (f) Best Management Practices. Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:

11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks ~~operator~~ organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

MM-BIO-4: Fireworks Biological Monitoring Plan. Not less than 30 days before any fireworks display event in the South Bay that would occur within 1 mile of sensitive avian nesting colonies, the fireworks organizer shall submit to the District an Avian Species Nesting Colony Monitoring Plan (Monitoring Plan). The Monitoring Plan shall be prepared by a qualified biologist and approved by the District in coordination with USFWS and CDFW. A qualified biologist is a person who, by reason of his or her knowledge of the natural sciences and the principles of wildlife biology, acquired by education and experience. The Monitoring Plan shall identify the monitoring protocol that will be used to assess the effectiveness of mitigation measures MM-BIO-1 and MM-BIO-2 and shall, at a minimum, include the following:

1. A literature review which refines the proposed methodology.
2. A list of target species identified for each individual event based on the season of the event, proximity of the event to nesting colonies, sensitivity of species, and capacity for the fireworks display event to cause species disturbance/effects.
3. Species behavior and noise data shall be collected at least 1 hour prior to, during, and 1 hour after the fireworks display event.
4. Documentation of the following data:
 - a. Site location, name of monitor, date and time of observations
 - b. Number of adults, nests, and chicks observed within one-half mile of spectator viewing areas
 - c. Sources of stressors (e.g., light, noise, trespass, debris)
 - d. Unauthorized access within nesting colonies
 - e. Counts of illegal pyrotechnics

Within 30 days following the completion of the fireworks display event, the qualified biologist shall prepare a Monitoring Report for submittal to the District that details the findings of the monitoring results. This report shall include background/introduction, methods, results, discussion, and recommendations sections. The District shall provide a copy of the report to the USFWS and CDFW and shall coordinate with these agencies regarding the results and recommendations of the report. Based on the review of the reports for two consecutive years of monitoring, the District, in coordination with these agencies, shall determine whether continued monitoring is required.

3.2.4 Changes to Chapter 4, Section 4.6, *Hydrology and Water Quality*

Page 4.6-33 to 4.6-34

MM-WQ-1: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Fireworks Debris. The fireworks organizer and operator are required to comply with the following water quality-related conditions of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(d) Fireworks Chemical Composition and Packaging.

1. Chemical Composition.

- B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available.

2. Packaging.

- A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event.
- B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.
- (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:
1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.
 2. Fireworks shall be brought to the barge and loaded in their ~~California~~ U.S. Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the fireworks launch area to contain debris.

3. Wires from the electric match placed in the fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are ~~installed on the racks, tied to the racks, or tied to the mortar~~) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event.
4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event.
5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway.
6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning.
7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent Fireworks using hand held fishnets, pool skimmers, or other similar equipment.
8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.
9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.
10. Within ~~five-ten~~ (510) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the dry weight of the fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar

year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.

MM-WQ-2: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter. The fireworks organizer and operator are required to comply with the following water quality-related condition of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:

11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks ~~operator~~ organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

3.2.5 Changes to Chapter 4, Section 4.8, *Noise and Vibration*

Page 4.8-24

Based on the assumed ambient noise levels in Table 4.8-13, for receptors within National City and Chula Vista (which both have the same assumed ambient noise levels), proposed new Fourth of July fireworks display events in National City and Chula Vista Bayfronts would generate a significant impact at any single-family homes (a 1-hour L_{eq} of 65 dBA or more) within 4,255 feet, a significant impact at any multi-family homes (a 1-hour L_{eq} of 70 dBA or more) within 2,765 feet, and a significant impact at any noise-sensitive commercial uses (a 1-hour L_{eq} of 75 dBA or more) within 1,730 feet (see Table 4.8-12). ~~Because~~ Based on the proposed launch barge location for the National City these Fourth of July fireworks display events ~~would be required to maintain a minimum buffer distance of 1 mile from nesting habitat for sensitive bird species as a condition of the proposed ordinance and required with the implementation of mitigation measure MM-NOI-1,~~ there would be no noise-sensitive receptors in National City or Chula Vista within 4,255 feet of ~~either the~~ the launch location, and impacts ~~from the National City display~~ would be less than significant in ~~these both National City and Chula Vista cities.~~ The proposed location of the Chula Vista launch barge is more than 2,765 feet from both the National City and Chula Vista shorelines, so there would be no significant impacts at multifamily homes or noise-sensitive commercial uses in these cities. Furthermore, there are no single-family homes within 4,255 feet of the proposed Chula Vista launch location. Therefore, impacts from the Chula Vista display would be less than significant in both National City and Chula Vista.

For receptors within the City of Coronado, the proposed new Fourth of July fireworks display events would generate a significant impact at any single-family homes (a 1-hour L_{eq} of 55 dBA or more) within 8,695 feet, a significant impact at any multi-family homes (a 1-hour L_{eq} of 60 dBA or more) within 6,230 feet, and a significant impact at any noise-sensitive commercial uses (a 1-hour L_{eq} of 70 dBA or more) within 2,765 feet (see Table 4.8-12). For both the National City and Chula Vista Fourth of July fireworks display events, these impact distances include many homes to the west in the City of Coronado. ~~For the Chula Vista Fourth of July fireworks display event, the impact distances would also include Grand Caribe Shoreline Park in the City of Coronado and, depending on the precise~~

~~location of the launch barge, could also include a hotel (Loews Coronado Bay Resort). Impacts at these receptors would be significant (Impact-NOI-1).~~

Page 4.8-25

For receptors within the City of Coronado, these fireworks display events would generate a significant impact at any single-family homes (a 1-hour L_{eq} of 55 dBA or more) within 5,640 feet, a significant impact at any multi-family homes (a 1-hour L_{eq} of 60 dBA or more) within 3,800 feet, and a significant impact at any noise-sensitive commercial uses (a 1-hour L_{eq} of 70 dBA or more) within 1,510 feet (see Table 4.8-12). Based on the assumed location of the launch barge, these impact distances include the Coronado Cays homes ~~and Grand Caribe Shoreline Park~~ to the west in the City of Coronado. Impacts at these receptors would be significant (**Impact-NOI-1**).

Significant impacts are not anticipated to extend to any other noise-sensitive land uses within Coronado or any other cities. It is noted, however, that if the ultimate location of the launch barge for the proposed fireworks display events is closer to the Chula Vista Bayfront than was assumed in the analysis (i.e., less than 1 mile from nesting ~~habitat~~ colonies for sensitive bird species) then it is possible some significant impacts could occur within the City of Chula Vista; these impacts would occur at any single-family homes, multi-family homes, or noise-sensitive commercial uses located within 2,440 feet, 1,510 feet, or 895 feet, respectively, of the launch barge location (**Impact-NOI-1**).

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Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project (**Impact-NOI-1**). Potentially significant impact(s) include the following.

Impact NOI-1: Substantial Periodic or Temporary Increase in Ambient Noise Levels of the Proposed New Fireworks Display Events. For proposed new fireworks display events (both Fourth of July and non-Fourth of July events), these noise increases would occur at homes ~~and the Grand Caribe Shoreline Park~~ in the City of Coronado, west of the proposed National City and Chula Vista launch locations. ~~Depending on the precise location of the proposed Chula Vista launch barge, substantial noise increases due to the proposed new Fourth of July fireworks display events may also occur at Loews Coronado Bay Resort.~~ If the ultimate location of the launch barge for the proposed Chula Vista fireworks display event is closer to the Chula Vista Bayfront than was assumed in the analysis then it is possible some significant impacts could also occur within the City of Chula Vista. Because the proposed new fireworks display events would occur at locations that do not currently have similar fireworks displays, the affected noise-sensitive receptors are not currently exposed to similar levels of fireworks noise and the impacts would be significant. However, it is also noted that the impacts would be very infrequent (approximately three times per year) and would include the Fourth of July, which is a traditional nationwide event during which most people have a reasonable expectation and understanding that fireworks will occur.

3.2.6 Changes to Chapter 7, *Alternatives to the Proposed Project*

Page 7-6 to 7-7

Alternative 2 – Quiet Fireworks Display Events Alternative

The Quiet Fireworks Display Events Alternative would require the proposed new fireworks display events along the National City and Chula Vista Bayfronts to be quiet fireworks display events that would not exceed a noise limit of 120 A-weighted decibels (dBA).¹ For this type of fireworks display event, the pyrotechnicians design a fireworks package that relies on the quieter types of fireworks. These fireworks display events would eliminate the use of “salute,” ~~rocket, and mine~~ fireworks altogether (*salute* fireworks, also known as maroon fireworks, are fireworks designed to make a very loud bang, or “report,” and an intense flash of light), as well as any other fireworks that generate a loud report, and instead focus on rich color effects and tight visual choreography in order to garner similar entertainment value out of the display. Generally, fireworks used in quiet fireworks display events would include fountains, wheels, cakes (such as crossettes, comets, spinners or turbillions, colored stars, fish or bees, and falling leaves), Chinese lanterns, and lanceworks (United Kingdom Fireworks Review 2016). It is important to note that the use of these fireworks would create a quieter, but not a silent, fireworks display event. In addition, quiet fireworks display events would involve fireworks that are concentrated closer to the ground with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell. Therefore, while these fireworks display events would be in the same locations as those specified for the proposed project (as detailed in Chapter 3, *Project Description*), i.e., on barges, because quiet fireworks display events would rely on fireworks that cannot achieve the same heights or the same magnitude as traditional fireworks displays, they would not be as prominently visible and the viewing area would be smaller than that which exists for the proposed project. The Quiet Fireworks Display Events Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on nearby sensitive receptors.

Alternative 3 – No Salute Fireworks Alternative

Salute fireworks, which are fireworks specifically designed to create a loud bang and intense flash of light, are the loudest type of firework. The primary purpose of salute shells is to announce the beginning and end of the display and produce a loud, percussive effect. From a distance, these shells sound similar to cannon fire when detonated (NMFS 2006). While the noise level of these fireworks varies by type, a typical linear (unweighted) peak noise level directly below a 3-inch salute exploding at its normal altitude is 140 decibels (dB) (Journal of Pyrotechnics, Inc. 2012). The No Salute Fireworks Alternative would have the same characteristics as all of the fireworks display events that compose the proposed project, including the same total pounds of fireworks per event (as outlined in Table 3-2 in Chapter 3, *Project Description*), but would prohibit the use of salute fireworks (also known as maroon fireworks) and limit the noise produced by all fireworks during

¹ 120 dBA maximum impulse sound pressure level due to the firework break(s), as measured at a horizontal distance of 15 meters from the launch testing point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.

fireworks display events to a maximum of ~~140~~130 dB.² ~~Rockets, mines, and a~~ All other firework types, including those described above under the Section 7.4.2.2, *Quiet Fireworks Display Event Alternative*, would be allowed as long as they do not exceed the ~~140~~130 dB noise limit. The No Salute Fireworks Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on sensitive receptors.

Page 7-12

Biological Resources

Under the Quiet Fireworks Display Events Alternative, the proposed new fireworks display events would make use of quieter types of fireworks, which would be closer to ground level and involve smaller viewing areas. However, these displays would still take place on barges within San Diego Bay near the National City and Chula Vista Bayfronts. While viewership may be slightly decreased, this alternative would likely still result in a substantial number of visitors both at the landside and waterside viewing areas. Direct and indirect impacts on green sea turtles and avian species related to increased boating activity, eelgrass beds from barges and tugs, foot traffic on sensitive habitat areas, and generation of trash and debris by fireworks and visitors could still occur. This alternative would include adoption of an ordinance that includes post-show debris cleanup requirements and security, signage, and education measures, best management practices, eelgrass protection requirements, removal of fireworks packaging, and requirements for reducing the use of non-biodegradable fireworks components that would reduce impacts on these biological resources to less-than-significant levels. Furthermore, the proposed ordinance for this alternative would also include light and noise reduction measures for fireworks display events, which would further reduce disturbances to sensitive avian species from firework-generated light and noise by eliminating the use of salutes and other loud, rocket, and mine fireworks altogether. Therefore, similar to the proposed project but at a reduced level, this alternative would result in less-than-significant impacts on nesting species. As such, impacts on biological resources under the Quiet Fireworks Display Event Alternative would be less than the proposed project.

² ~~140~~130 dB linear (unweighted) peak sound pressure level due to the firework break(s), as measured at a horizontal distance of 15 meters from the launch point at a height of 1 meter above the ground, directly under the shell burst (break) occurring at its normal altitude, using a Type 1 sound measuring device with a free-field microphone at a height of 1 meter above the ground.

3.2.7 Figure Revisions

The figures on the following pages have been revised as a result of the relocation of the Chula Vista Bayfront launch site.

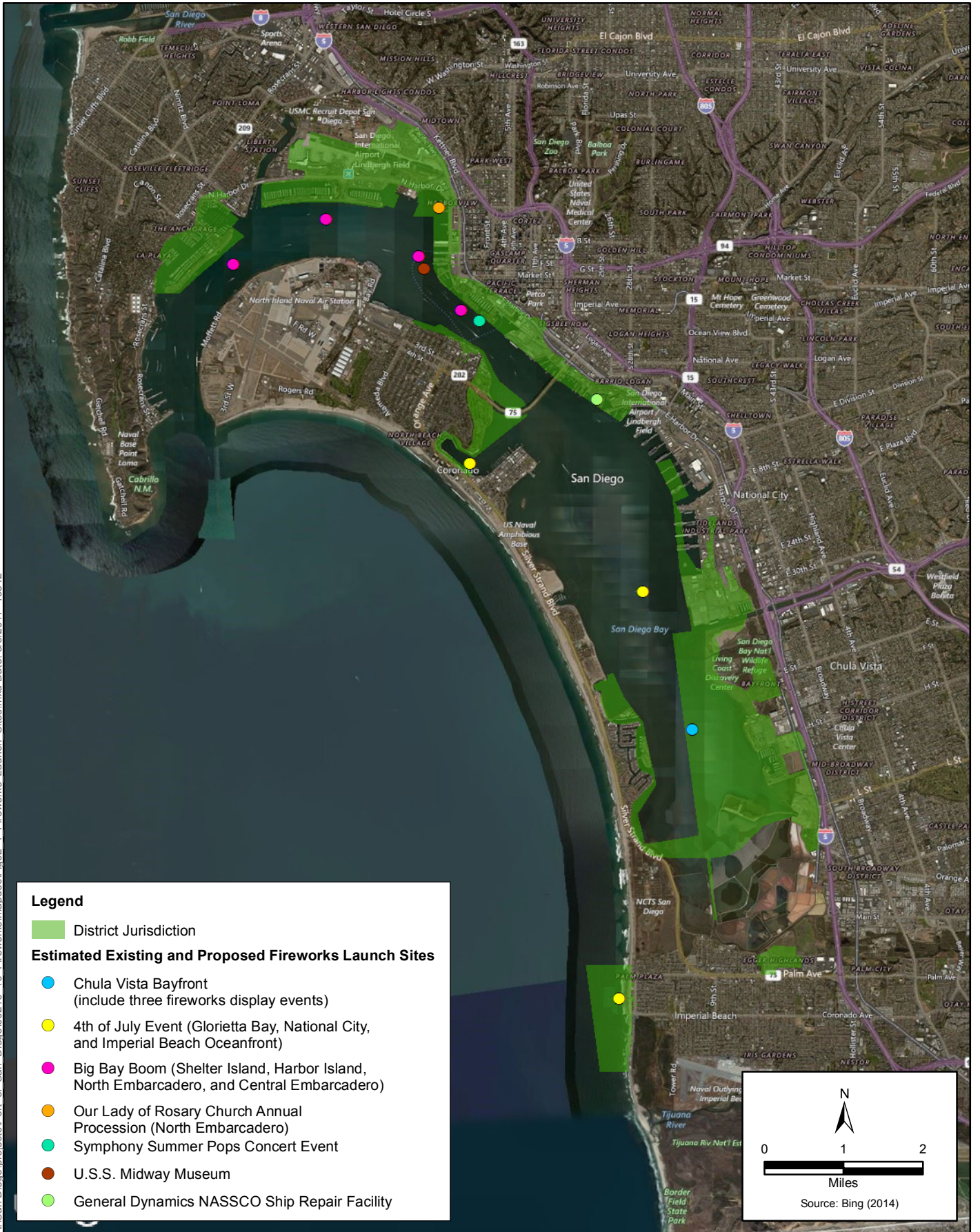


Figure 2-1
**Estimated Existing and Proposed Fireworks Launch Sites
 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR**
 66738 Page 118

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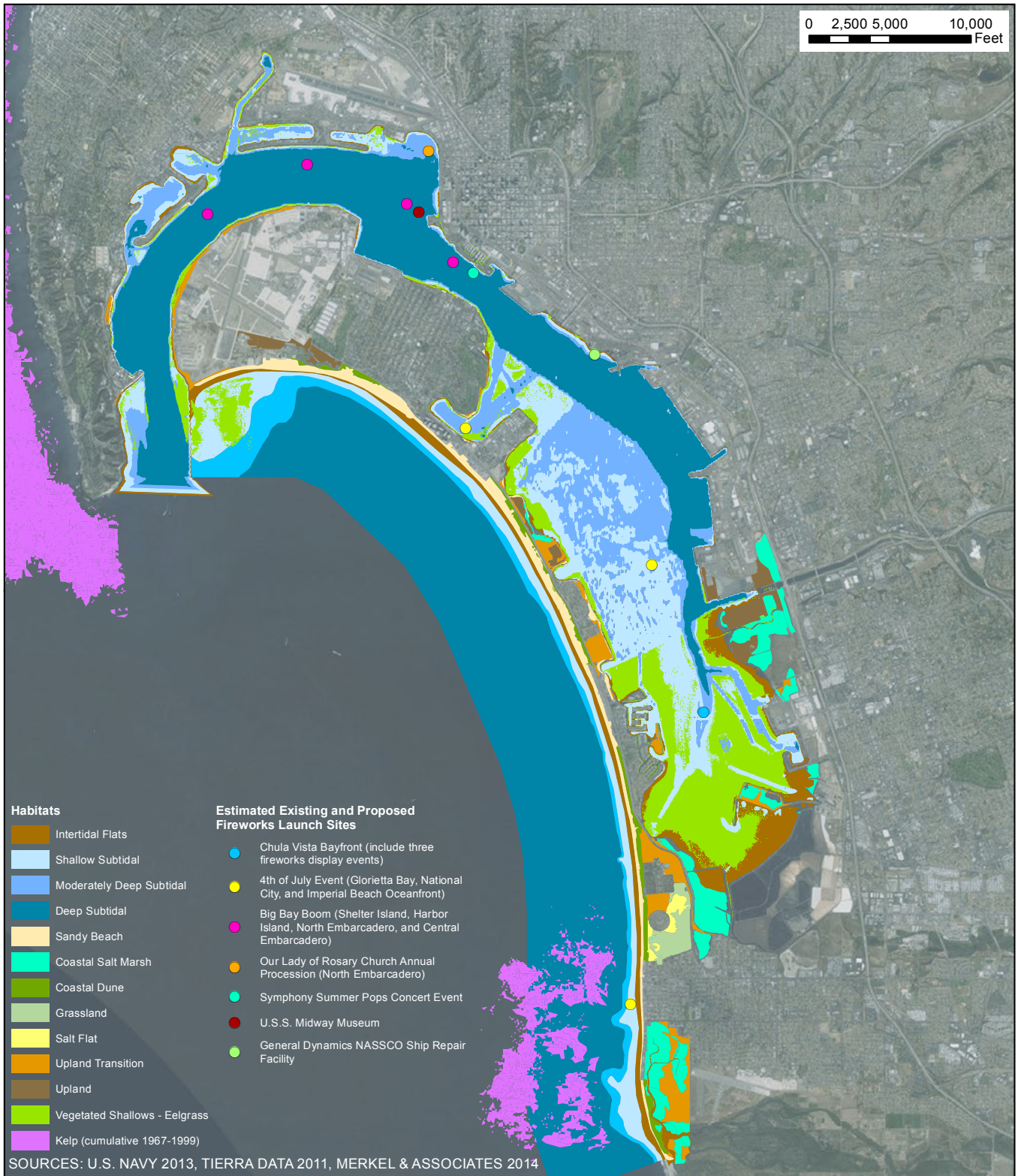


Figure 4.3-1
Biological Habitats of San Diego Bay
Fireworks EIR Alternatives

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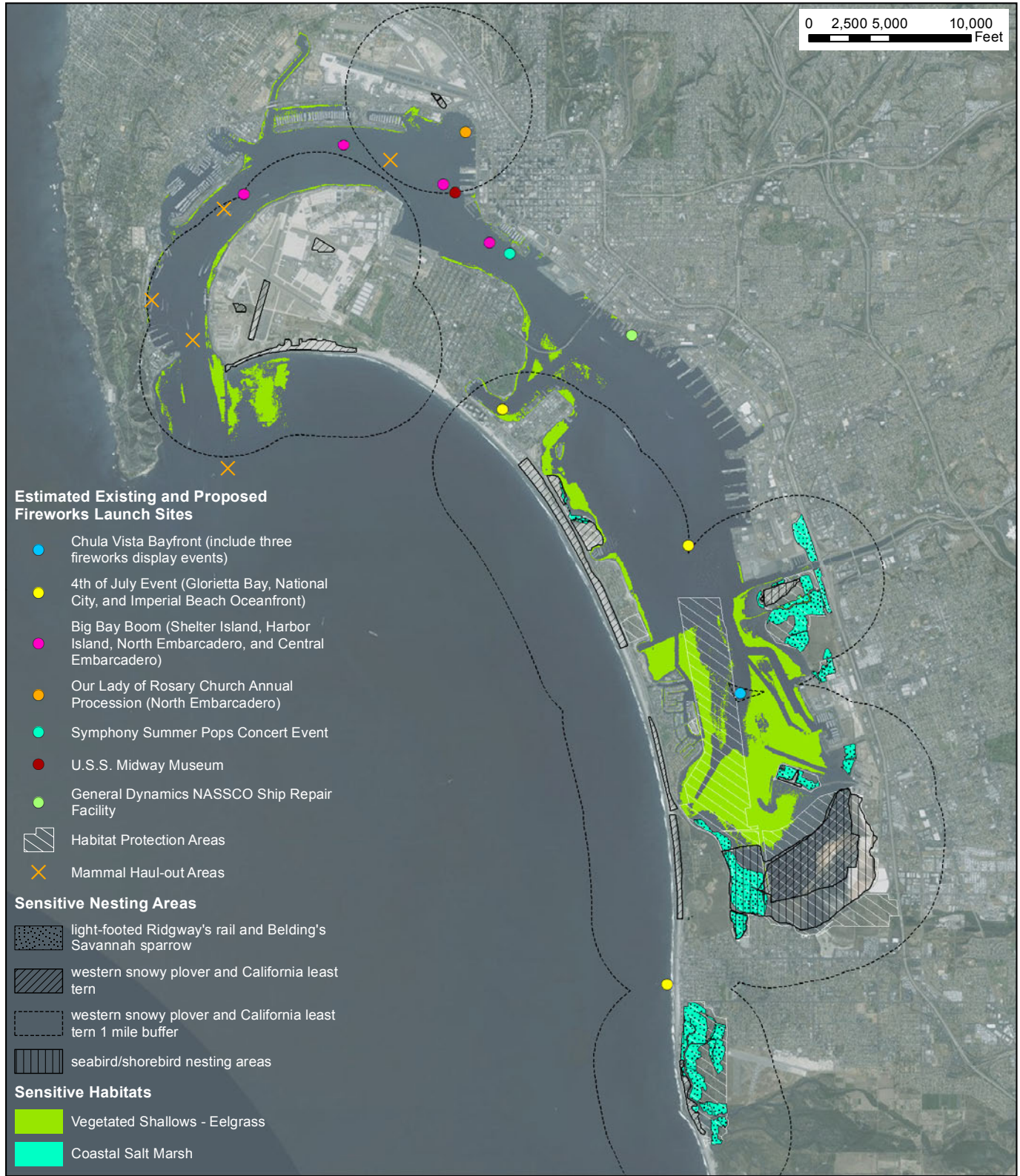
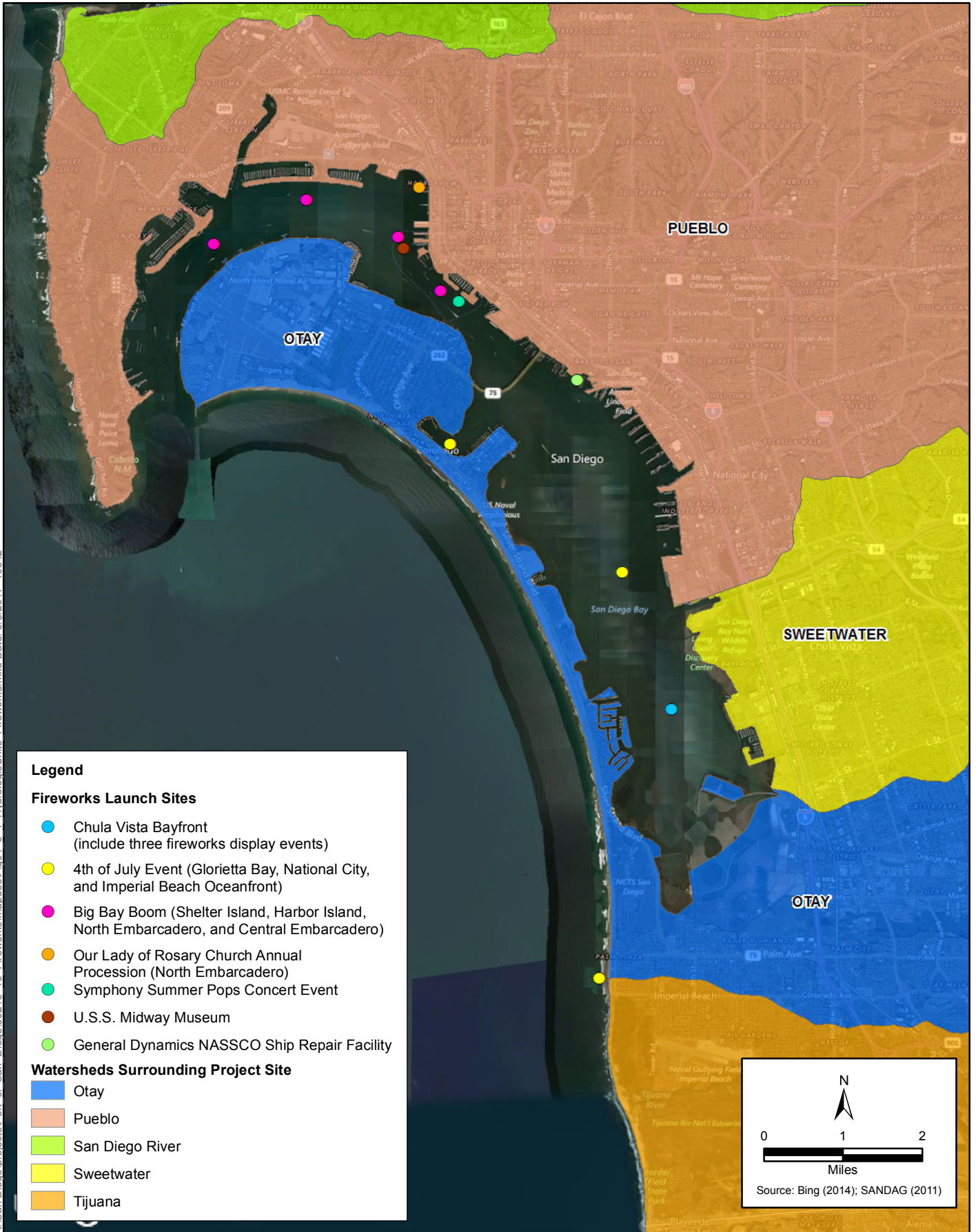
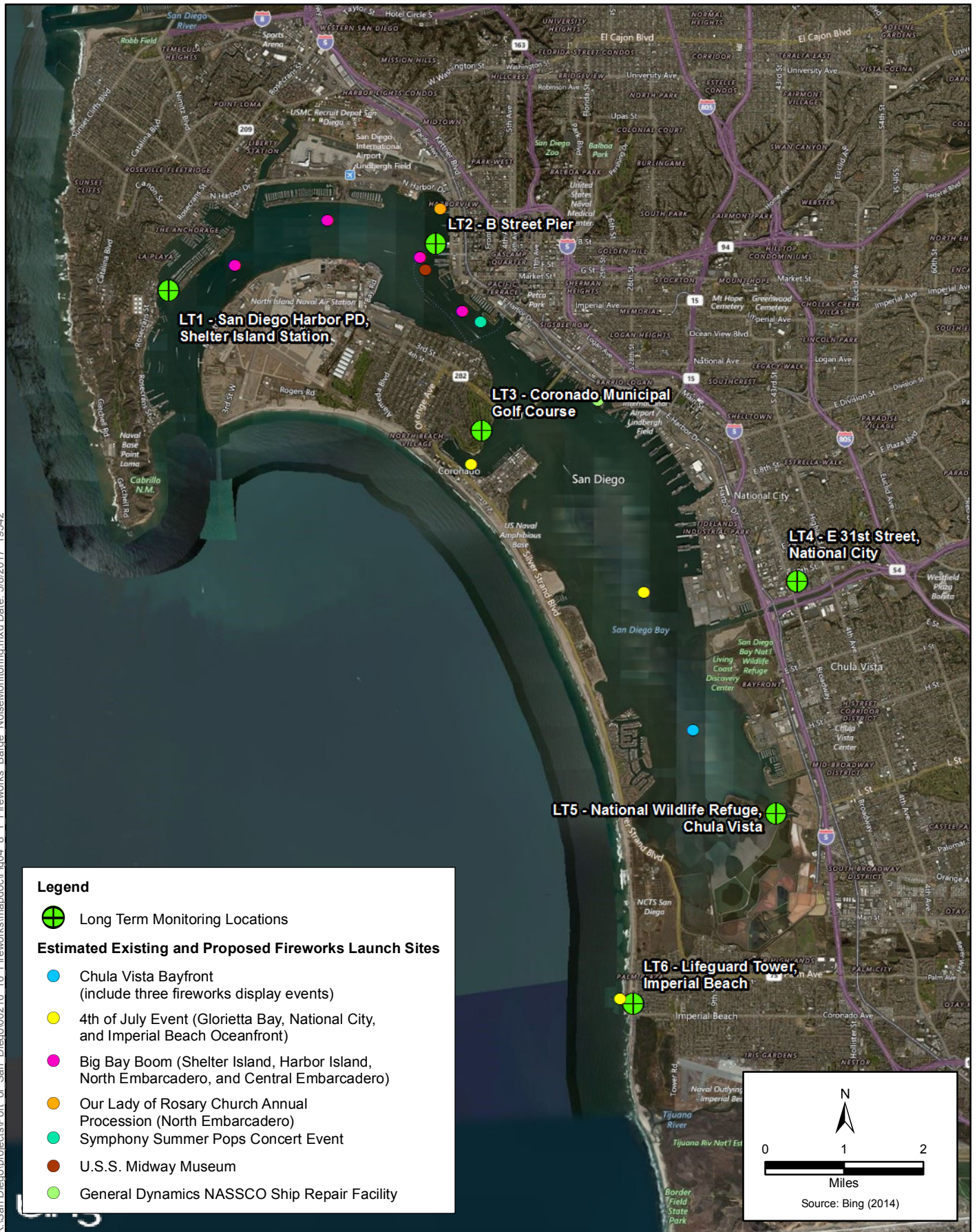


Figure 4.3-2
Sensitive Habitats, Wetlands, and Sensitive Species
within the Project Area
Fireworks EIR Alternatives





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Figure 4.10-2
Chula Vista Bayfront Traffic Study Area
San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR
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3.2.8 Changes to Appendix D, *Proposed Ordinance*

Revisions made to the proposed ordinance since public review of the Draft EIR are provided below.

ARTICLE __

FIREWORKS DISPLAY ORDINANCE

Section __.01 - TITLE

The title of this article shall be known as the “San Diego Unified Port District Fireworks Display Event Ordinance.”

Section __.02 - PURPOSE

The purpose of this article is to establish a defined set of requirements and procedures by which the District and users of the District tidelands may continue to enjoy fireworks displays in and around San Diego Bay and the Pacific Ocean near Imperial Beach. Further, it is the intent of this article to protect the health, safety and welfare of persons, property and the environment within the District’s jurisdiction and to comply with federal, state and local laws and regulations governing the handling, possession, storage, loading, staging, launching and detonating of fireworks.

Section __.03 - DEFINITIONS

For purposes of this article, certain words and phrases not otherwise defined in District Code section 0.03 shall be defined as follows, unless the context requires a different meaning:

“Alternative fireworks” means fireworks produced with new pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters.

“Applicant” means a person who submits an application to the District for a permit pursuant to this article.

“Application” means the District’s written form to be submitted by a person requesting a permit pursuant to this article.

“Barge” means a water vessel from which fireworks are launched or detonated.

“Best Management Practices” or “BMPs” means schedules of activities, prohibitions of practices, pollution prevention and educational practices, maintenance procedures, tools and other management practices used to prevent or reduce the discharge of pollutants directly to receiving waters to the maximum extent practicable. BMPs may include any type of pollution prevention and pollution control measure that can help to achieve compliance with this article.

“District” means the San Diego Unified Port District.

“District General Counsel” means the General Counsel of the District or her/his designee.

“Executive Director” means the Executive Director (President/CEO) of the District or her/his designee.

“Fireworks” means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment, including aerial shells, low-level comet or multi-shot devices or ground-level displays. The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks, torpedoes, skyrockets, roman candles, rockets, sparklers, party poppers, paper caps, chasers, fountains, smoke sparks, aerial bombs, and fireworks kits.

“Fireworks Display Event” means the handling, possession, storage, loading, staging, launching or detonating of fireworks on the land or waters within the District’s jurisdiction for viewing by the public or any group of persons exceeding twenty-five (25) in number.

“Fireworks Operator” means a pyrotechnic operator licensed by the State of California, who by examination, experience and training has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted, and who is responsible for supplying, staging, launching or detonating the fireworks used in a fireworks display event.

“Fireworks Organizer” means a person who proposes to conduct a fireworks display event and who is responsible for obtaining the funding and approvals for a fireworks display event and for contracting with a fireworks operator to produce a fireworks display event.

“Fourth of July Fireworks Display Event” means a fireworks display event that occurs annually on the Fourth of July to express patriotism and civic pride and to celebrate the signing of the Declaration of Independence of the United States of America.

“Non-Fourth of July Fireworks Display Event” means a fireworks display event that occurs on a date other than the Fourth of July.

“Operation Clean Sweep” means the annual cleanup event sponsored by the San Diego Port Tenants Association and District, among others, where volunteers remove trash and debris from San Diego Bay.

“Permit” means the District-issued authorization for an applicant to conduct a fireworks display event pursuant to this article.

“Person” means an individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency or other legal entity, or the agent or employee thereof.

“Pounds” means the net explosive weight of fireworks.

“Salute” means an aerial shell as well as other pyrotechnic items whose primary effects are loud noise generated by detonation and flash of light.

“San Diego Bay Fourth of July Fireworks Display Event” means the annual fireworks display event which occurs on the Fourth of July at up to four (4) locations in northern San Diego Bay and is currently known as the “Big Bay Boom.” The San Diego Bay Fourth of July Fireworks Display Event will be referred to in this article as the Big Bay Boom.

“San Diego Water Board” means the California Regional Water Quality Control Board for the San Diego Region.

“San Diego Water Board General Permit” means California Regional Water Quality Control Board for the San Diego Region Order No. R9-2011-0022/NPDES No. CAG999002, General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States, including any updates and amendments thereto.

“Sponsor” means a person who contributes funds, services, or other forms of assistance to a fireworks organizer in support of a fireworks display event.

Section __.04 - PROHIBITIONS

(a) It shall be unlawful for any Person to handle, possess, store, load, stage, launch or detonate Fireworks on land or water within District jurisdiction without first having obtained a Permit from the Executive Director as provided in this section. By signing said Permit, each Permit recipient acknowledges and agrees to comply with all of the applicable terms and conditions that may be specified in such Permit and this article.

(b) Any Person who receives a discretionary lease, permit, license or other entitlement for use or a contract, grant, subsidy, loan or other form of financial assistance from the District in connection with a Fireworks Display Event shall also obtain a Permit from the Executive Director as provided in this article. By signing said Permit, each Permit recipient acknowledges and agrees to comply with all of the applicable terms and conditions that may be specified in such Permit and this article.

Section __.05 - PERMITS - APPLICATION

Whenever the privilege of doing any of the acts hereinbefore enumerated in this article requires obtaining a Permit from the Executive Director, the following procedure shall be followed:

(a) An application for a Permit shall be filed with the District not less than sixty (60) days before the date on which the Fireworks Display Event is proposed to occur.

(b) The application shall be in writing, in a form approved by the District, and shall include, at minimum, the following information: the Person who proposes to handle, possess, store, load, stage, launch or detonate Fireworks, including if applicable the Fireworks Organizer, Fireworks Operator and Sponsor of the Fireworks Display Event; the date, time and duration of the proposed Fireworks Display Event; the location(s) of the proposed Fireworks Display Event, including the loading, staging and launching sites; the total number of pounds, shell sizes and types of Fireworks to be used; and the proposed event transportation and parking management plan for the Fireworks Display Event.

(c) The application shall include copies of the Applicant's Notice of Intent for coverage under the San Diego Water Board General Permit, the San Diego Water Board's Notice of Enrollment of the proposed Fireworks Display Event under said General Permit, and the Best Management Practices Plan approved by the San Diego Water Board for the proposed Fireworks Display Event.

(d) When the application is deemed complete, the Executive Director shall review the application and determine whether the proposed Fireworks Display Event complies with all of the requirements of section __ (Permit – Conditions of Approval) of this article. If the proposed Fireworks Display Event complies with all of the requirements of section __ (Permit – Conditions of Approval) of this article, the Executive Director shall issue a Permit.

(e) Each Permit issued shall state the date, time and location of the Fireworks Display Event for which it is issued, the name of the Person to whom it is issued and all mandatory conditions upon which the Permit is given.

(f) An application for a permit for a Fireworks Display Event at a location not identified in Section .7(a) of this article may be granted by the Executive Director provided that (i) environmental review for the proposed Fireworks Display Event has been completed and approved or certified by the District as required by the California Environmental Quality Act, Public Resources Code § 21000, et seq. prior to issuance of a permit and (ii) the applicant has obtained all other permits and approvals as required by law, including without limitation approvals and permits required under the California Coastal Act, Public Resources Code § 30000, et seq.

Section __.06 - PERMITS – PUBLIC NOTICE

(a) Within five (5) business days after the issuance of a Permit pursuant to this article, the Executive Director shall give public notice of the issuance of such Permit by posting a copy of the Permit on the District’s website.

Section __.07 - PERMITS - CONDITIONS OF APPROVAL

All permits issued by the Executive Director shall be subject to the following terms and conditions:

- (a) Location of Fireworks Display Events.
1. Fourth of July Fireworks Display Events shall occur only at the following locations:
 - A. Big Bay Boom, at up to four (4) locations in northern San Diego Bay;
 - B. Fourth of July Imperial Beach Fireworks, at one (1) location along the Imperial Beach Pier;
 - C. Fireworks Over Glorietta Bay, at one (1) location in Glorietta Bay;
 - D. Chula Vista Fourth of July, at one (1) location adjacent to the Chula Vista Bayfront; and
 - E. National City Fourth of July, at one (1) location adjacent to the National City Bayfront.
 2. Non-Fourth of July Fireworks Display Events shall occur only at the following locations:
 - A. National Steel and Shipbuilding Company (NASSCO) shipyard, not to exceed two (2) displays per year along NASSCO Pier 12;
 - B. U.S.S. Midway Museum, not to exceed twenty-three (23) displays per year on or adjacent to the U.S.S. Midway Museum;
 - C. San Diego Symphony Summer Pops Concerts, not to exceed twenty (20) displays per year adjacent to Embarcadero Marina Park South;

D. Our Lady of Rosary Church Annual procession, not to exceed one (1) display per year along Harbor Drive and at end of Grape Street Pier; and

E. Chula Vista Bayfront, not to exceed two (2) displays per year adjacent to the Chula Vista Bayfront.

(b) Duration of Fireworks Display Events.

1. Fourth of July Fireworks Display Events shall not exceed twenty (20) minutes in duration.
2. Non-Fourth of July Fireworks Display Events shall not exceed ten (10) minutes in duration.

(c) Size of Fireworks Display Events.

1. Fourth of July Fireworks Display Events:

A. Big Bay Boom, not to exceed a cumulative 5,342 pounds of fireworks with shell sizes not to exceed 10 inches;

B. Fourth of July Imperial Beach Fireworks, not to exceed 456 pounds of fireworks with shell sizes not to exceed 10 inches;

C. Fireworks Over Glorietta Bay, not to exceed 397 pounds of fireworks with shell sizes not to exceed 10 inches;

D. National City Fourth of July, not to exceed 400 pounds of fireworks with shell sizes not to exceed 8 inches; and

E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks with shell sizes not to exceed 8 inches.

2. Non-Fourth of July Fireworks Display Events:

A. NASSCO shipyard, not to exceed 281 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 439 pounds of fireworks per year;

B. U.S.S. Midway Museum, not to exceed 235 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 1,759 pounds of fireworks per year;

C. San Diego Symphony Summer Pops Concerts, not to exceed 95 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 1,498 pounds of fireworks per year;

D. Our Lady of Rosary Church Annual procession, not to exceed 18 pounds of fireworks with shell sizes not to exceed 6 inches; and

E. Chula Vista Bayfront, not to exceed 114 pounds of fireworks per display with shell sizes not to exceed 8 inches, or a cumulative total of 228 pounds of fireworks per year.

(d) Fireworks Chemical Composition and Packaging.

1. Chemical Composition.

A. The Big Bay Boom Fourth of July Fireworks Display Event shall use Fireworks which contain no more than 0.32% copper (Cu) per pound of explosive firework material, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that the total copper emissions from the proposed Big Bay Boom Fireworks Display Event will not exceed seventeen (17) pounds. Fireworks which do not conform to the foregoing requirement, but were lawfully purchased prior to the effective date of this article, may be used for a period of six months after the effective date of this article.

B. All Fireworks Display Events shall use Alternative Fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such Alternative Fireworks are not commercially available.

2. Packaging.

A. Prior to commencement of a Fireworks Display Event, the Fireworks Operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all Fireworks to be used in the event.

B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.

(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian

breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:

1. Location. Fireworks Display Events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches.

2. Salutes. Fireworks Display Events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25%) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display).

3. Security. For Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the Fireworks Organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays. In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay.

4. Signage. For Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the Fireworks Organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.

5. Education. Beginning not less than seven (7) days before Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the Fireworks Organizer shall implement a public education program using daily announcements on social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to reminds viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).

(f) Best Management Practices. Fireworks Display Events shall implement the following BMPs for Fireworks Display Event preparation, discharge and clean-up:

1. Fireworks Display Events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.

2. Fireworks shall be brought to the barge and loaded in their ~~California~~-U.S. Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the Fireworks Display Event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the Fireworks Display Event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.

3. Wires from the electric match placed in the Fireworks fuse shall be ~~wrapped around nails that are installed~~ secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the Fireworks Display Event.

4. Once the Fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the Fireworks Display Event.

5. Following the Fireworks Display Event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the Fireworks Display Event, the Fireworks Operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the Fireworks, to prevent it from being discharged into the water while the barge is underway.

6. Upon return to the loading facility, the Fireworks Operator shall clean the barge of all Fireworks related material and shall photograph and properly dispose of all Fireworks trash and debris. Unexploded Fireworks and related components shall be collected and disposed of by the Fireworks Operator in accordance with all applicable regulations. Fireworks Operators shall photograph the barge prior to and after cleaning.

7. Following the Fireworks Display Event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the Fireworks

Organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent Fireworks using hand held fishnets, pool skimmers, or other similar equipment.

8. The morning after the Fireworks Display Event, the Fireworks Organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove Fireworks trash and debris. The Fireworks Organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.

9. The morning after the Fireworks Display Event, the Fireworks Organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The Fireworks Organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.

10. Within ~~five-ten~~ (5-10) business days after a Fireworks Display Event, the Fireworks Organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the dry weight of the Fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the Fireworks Display Event, the Fireworks Organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the Fireworks Display Event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.

11. For all Fourth of July Fireworks Display Events and for Non-Fourth of July Fireworks Display Events which are advertised to the public, the Fireworks ~~Operator~~ Organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

(g) Eelgrass Avoidance and Mitigation. For Fireworks Display Events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use

high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.

(h) Event Transportation and Parking Management Plans. For all Fourth of July Fireworks Display Events and for Non-Fourth of July Fireworks Display Events which are advertised to the public, the Fireworks Organizer shall prepare and submit an event transportation and parking management plan (ETPMP) to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The ETPMP shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:

1. Transportation management strategies, including but not limited to, a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which shall be implemented for the Fireworks Display Event; and

2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, off-site parking arrangements, designated areas for taxi and rideshare pick up/drop off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations.

(i) Compliance with San Diego Water Board General Permit.

1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.

2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article.

3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.

(j) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.

(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant's failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.

(l) Indemnity: The Applicant shall indemnify and hold harmless the District, its board, officers and employees, from any and all claim of loss, liability or damage arising out of the Fireworks Display Event, including but not limited to the issuance of the District Permit, or in connection with the handling, possession, storage, loading, staging, launching or detonating of Fireworks by the Applicant, its officers, employees, contractors, agents or other representatives, howsoever caused, whether such loss, liability or damage results, either directly or indirectly, from the acts, omissions or negligence of the Applicant, its officers, employees, contractors, agents or other representatives, in connection with the handling, possession, storage, loading, staging, launching or detonation of Fireworks pursuant to said Permit.

(m) Insurance: The Applicant shall file with the Executive Director, in a form approved by the District General Counsel, a policy of public liability and property damage insurance, in such amounts and form as the Executive Director may specify, indemnifying the District, its boards, officers and employees, as their interest may appear under the terms and conditions of said Permit. The Permit shall not become effective until after such policy of insurance has been received by the District.

(n) Performance Bond: ~~The Executive Director may require~~ For public Fireworks Display Events with over 500 spectators the Applicant ~~to~~ shall post a faithful performance bond, in a form approved by the District General Counsel, or in lieu thereof the equivalent in cash, in an amount sufficient in the opinion of the Executive Director to cover costs associated with the

Fireworks Display Event allowed under the permit, including without limitation the costs of providing security for the protection of sensitive species and habitat, and cleaning up and removing debris, rubbish and trash. The permit shall not become effective until after such faithful performance bond, or cash in lieu thereof, has been posted with and received by the District.

(o) Mitigation Measures: All permit applications shall be reviewed by the District for consistency with the Mitigation Monitoring and Reporting Program (MMRP) from the Final Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project, as certified by the Board of Port Commissioners, and all applicable mitigation measures from the MMRP shall be identified as required conditions of the approved permit issued by the District.

Section __.8 – GENERAL PROVISIONS

(a) Preemption. The provisions of this article do not apply where any federal or state law regulates the handling, possession, storage, loading, staging, launching or detonating of Fireworks if the federal or state law preempts local regulation or the federal or state law is more restrictive.

(b) Severability. If any provision of this article or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of this article which can be given effect without the invalid provisions or application, and to this end the provisions of this section are severable.

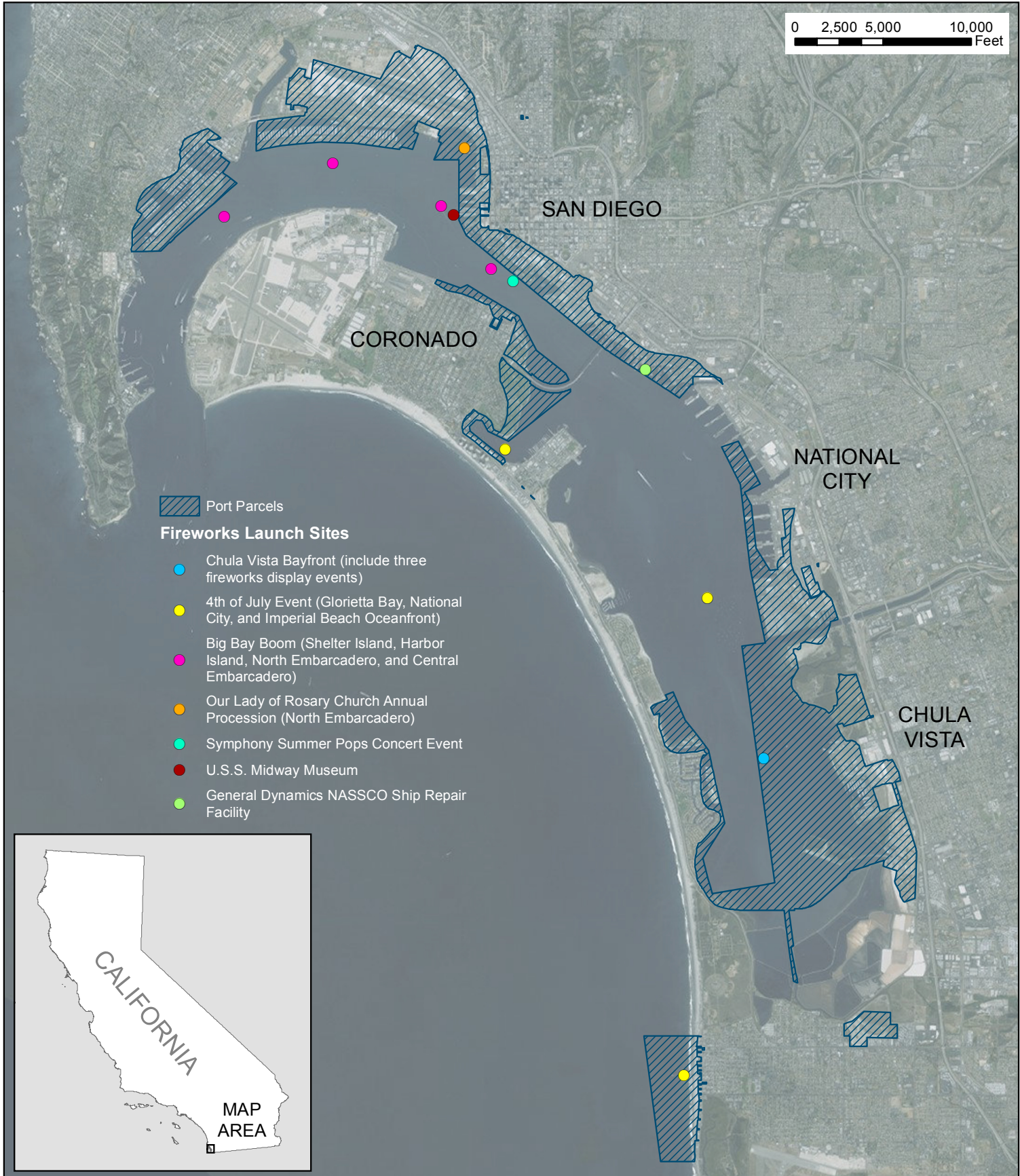
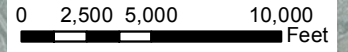
(c) Cost Recovery. ~~Pursuant to Article 2, Cost Recovery, of the District Code, the~~ The Applicant shall pay a fee to the District for the cost of services and administrative acts of the District incurred in processing a permit application pursuant to the article.

Section __.9 - ENFORCEMENT

Any person who violates this article or who fails to comply with the terms and conditions of a permit issued pursuant to this article shall be subject to punishment in accordance with District Code section 0.11, General Penalty, and section 0.13, Permit Violations.








3.2.9 Changes to Appendix F, *Biological Technical Report*

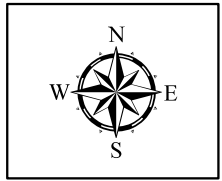
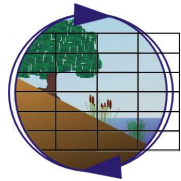
The figures on the following pages have been added to or revised in Appendix F, *Biological Technical Report*.



 Port Parcels

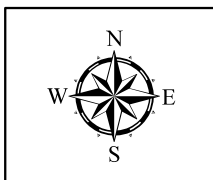
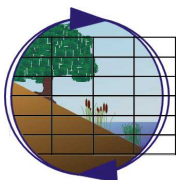
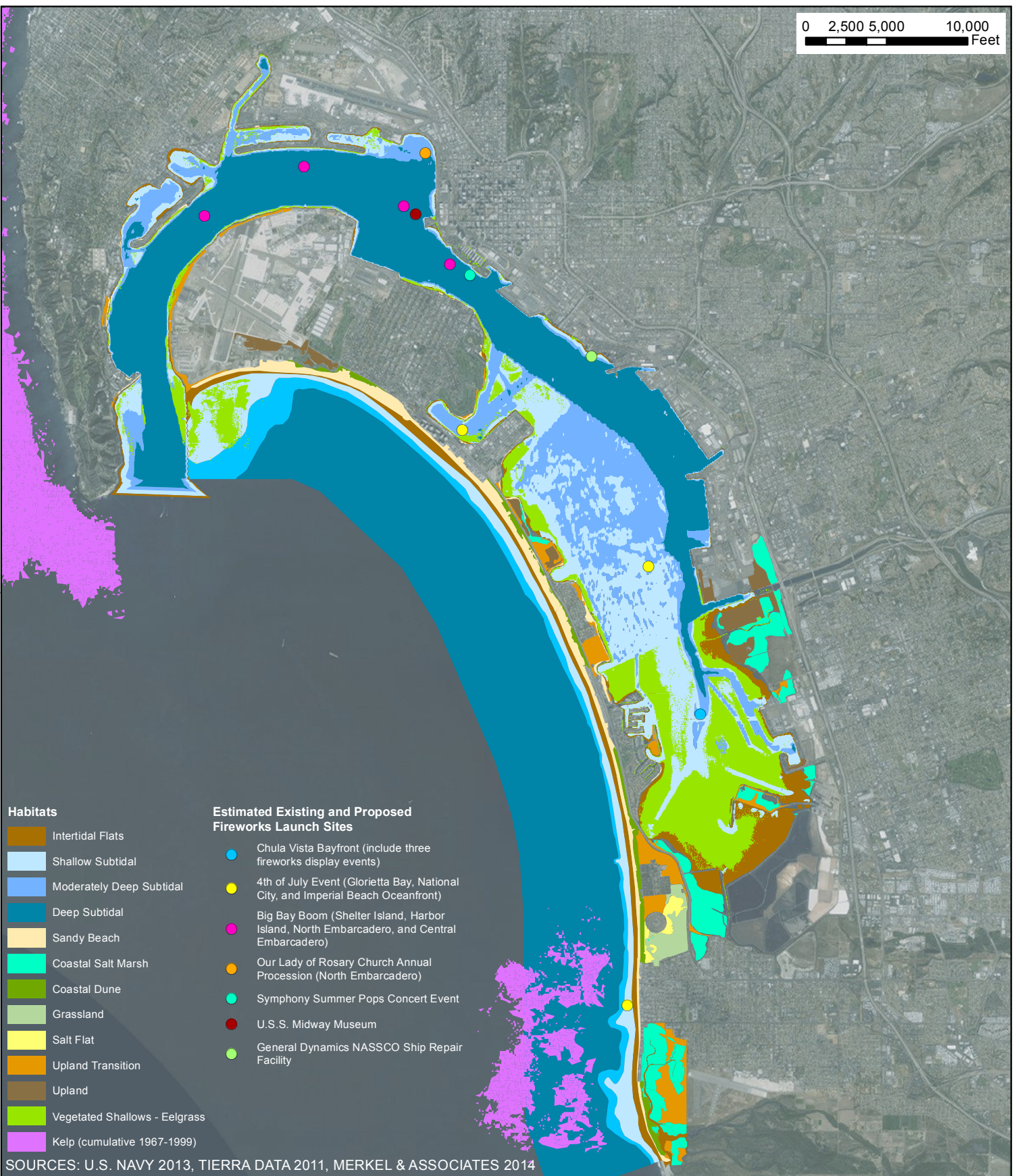
Fireworks Launch Sites

-  Chula Vista Bayfront (include three fireworks display events)
-  4th of July Event (Glorietta Bay, National City, and Imperial Beach Oceanfront)
-  Big Bay Boom (Shelter Island, Harbor Island, North Embarcadero, and Central Embarcadero)
-  Our Lady of Rosary Church Annual Procession (North Embarcadero)
-  Symphony Summer Pops Concert Event
-  U.S.S. Midway Museum
-  General Dynamics NASSCO Ship Repair Facility



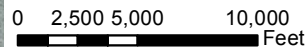
San Diego Bay Vicinity Map and Launch Sites
 Biological Technical Study
 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Figure 1



Biological Habitats of San Diego Bay
 Biological Technical Study
 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Figure 2



Estimated Existing and Proposed Fireworks Launch Sites

- Chula Vista Bayfront (include three fireworks display events)
- 4th of July Event (Glorietta Bay, National City, and Imperial Beach Oceanfront)
- Big Bay Boom (Shelter Island, Harbor Island, North Embarcadero, and Central Embarcadero)
- Our Lady of Rosary Church Annual Procession (North Embarcadero)
- Symphony Summer Pops Concert Event
- U.S.S. Midway Museum
- General Dynamics NASSCO Ship Repair Facility

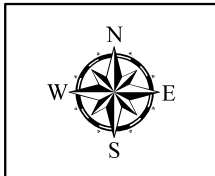
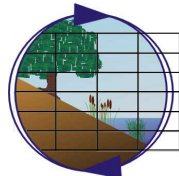
- Habitat Protection Areas
- ✕ Mammal Haul-out Areas

Sensitive Nesting Areas

- light-footed Ridgway's rail and Belding's Savannah sparrow
- western snowy plover and California least tern
- western snowy plover and California least tern 1 mile buffer
- seabird/shorebird nesting areas

Sensitive Habitats

- Vegetated Shallows - Eelgrass
- Coastal Salt Marsh



Sensitive Habitats, Wetlands, and Sensitive Species within the Project Area

Biological Technical Study
San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Figure 3

Chapter 4

Comments Received and District Responses

4.1 Introduction

The Draft Environmental Impact Report (EIR) was available for public review for 45 days beginning on March 17, 2017 and ending on May 2, 2017. The District posted an electronic version on the District website, hard copies were sent to the City of San Diego Central Library, City of National City Public Library, City of Chula Vista Public Library, City of Imperial Beach Branch Library, and City of Coronado Public Library, and a copy was available for review at the District's Administration Building at 3165 Pacific Hwy, San Diego, CA 92101. A Notice of Availability was posted with the County Clerk on March 17, 2017. All requisite documents, including the Notice of Completion form, were sent to the State Clearinghouse on March 17, 2017. Below is a listing of those agencies and organizations that received a copy of the Draft EIR or a postcard noticing the availability of the Draft EIR.

4.2 Public Draft EIR Distribution List

4.2.1 Federal Agencies

Federal Aviation Administration: Air Traffic Airspace Branch; San Diego Flight Standards District Office; Southwest Region; Western-Pacific Region

Federal Emergency Management Agency: Floodplain Management and Insurance Branch

U.S. Army Corps of Engineers: Los Angeles District; San Diego Field Office; Regulatory Division

U.S. Coast Guard: San Diego Marine Safety Office; Department of Homeland Security

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service: West Coast Regional Office

U.S. Department of the Navy, Southwest Division: Naval Facilities Engineering Command Southwest Office, Public Affairs Department, Naval Air Station North Island, Naval Base Coronado, Naval Base San Diego, Community Planning Liaison Officer

U.S. Environmental Protection Agency: Pacific Southwest, Region 9

U.S. Fish & Wildlife Service: Carlsbad Office

U.S. Department of Homeland Security: U.S. Customs & Border Protection

4.2.2 State Agencies

California Air Resources Board

California Air Resources Board: Freight Transport Branch

California Coastal Commission: San Diego Coast District Office

California Department of Boating and Waterways

California Department of Fish and Wildlife, South Coast Region

California Department of Parks and Recreation
 California Department of Public Health
 California Department of Toxic Substances Control
 California Department of Transportation, District 11, San Diego
 California Department of Transportation: Division of Aeronautics; District 11 Office
 California Environmental Protection Agency
 California Highway Patrol
 California Integrated Waste Management Board
 California Native American Heritage Commission
 California Office of Planning and Research (State Clearinghouse)
 California Public Utilities Commission
 California Regional Water Quality Control Board: Region 9, San Diego
 California Resources Agency
 California State Lands Commission
 California State Water Resources Control Board

4.2.3 Regional and Local Agencies

City of Chula Vista: Planning Department; Chula Vista Public Library, Civic Center Branch
 City of Coronado: Community Development Department; Coronado Public Library
 City of Imperial Beach: Community Development Department; Fire Department; Imperial Beach Branch Library
 City of National City: Community Development Department; National City Public Library
 City of San Diego: Central Library; Districts 1 through 10; Development Services; Planning Department; Transportation Division; City Clerk; Mayor's Office; City Council; Water Department; Stormwater Pollution Prevention District; Wastewater Department
 County of San Diego: County Clerk; Board of Supervisors; Planning and Land Use Department; Department of Environmental Health; Air Pollution Control District; Land Use and Environmental Group
 San Diego Association of Governments
 San Diego Chamber of Commerce
 San Diego County Regional Airport Authority
 San Diego County Water Authority
 San Diego Gas & Electric
 San Diego Metropolitan Transit System

Other interested individuals, organizations, and groups also received a postcard noticing the availability of the Draft EIR.

4.3 Comments Received on the Draft EIR

The District received 10 comment letters on the Draft EIR during the public review period. Topics included air quality, biological resources, greenhouse gas (GHG) emissions, hydrology and water quality, noise, and transportation and traffic. Table 4-1 lists the agencies and interested parties that provided comment letters.

Table 4-1. Agencies and Organizations that Submitted Comment Letters on the Draft EIR

Letter	Agency/Organization	Dated	Received	Page
Federal Agencies				
A	Federal Emergency Management Agency	3/23/17	4/25/17	4-4
B	United States Fish and Wildlife Service	5/2/17	5/2/17	4-6
State Agencies				
C	Governor's Office of Planning and Research, State Clearinghouse and Planning Unit	5/3/17	5/8/17	4-24
D	California Coastal Commission	5/1/17	5/1/17	4-26
E	California Department of Fish and Wildlife	5/2/17	5/2/17	4-33
Regional and Local Agencies				
No comment letters were received from regional or local agencies.				
Organizations				
F	Coastal Environmental Rights Foundation	5/2/17	5/2/17	4-46
G	Fireworks & Stage FX America	4/18/17	5/2/17	4-56
H	H.P. Purdon	5/1/17	5/1/17	4-71
I	Pacific Tugboat Service	5/1/17	5/1/17	4-75
J	Pyro Spectaculars, Inc.	5/2/17	5/2/17	4-77
Individuals				
No comment letters were received from individuals.				

4.4 Comment Letters and Responses

4.4.1 Comment Letter A: Federal Emergency Management Agency

RECEIVED

APR 25 2017

SAN DIEGO UNIFIED
PORT DISTRICT
REAL ESTATE

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052



FEMA

March 23, 2017

Wileen Manaos,
Real Estate Development Department
San Diego Unified Port District
3165 Pacific Highway
San Diego, California 92101-1128

Dear Ms. Manaos:

A-1 | This is in response to your request for comments regarding the Notice of Availability of a Draft Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project.

Please review the current effective countywide Flood Insurance Rate Maps (FIRMs) for the County of San Diego (Community Number 060284) and City of San Diego (Community Number 060295), Maps revised April 5, 2016. Please note that the City of San Diego, San Diego County, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- A-2 |
- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.
 - If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any **development** must not increase base flood elevation levels. **The term development means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

A-2
cont

- All buildings constructed within a coastal high hazard area, (any of the “V” Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA’s Flood Map Revision Application Packages, please refer to the FEMA website at <http://www.fema.gov/business/nfip/forms.shtm>.

Please Note:

A-3

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community’s floodplain manager for more information on local floodplain management building requirements. The San Diego floodplain manager can be reached by calling Jamal Batta, CFM, P.E., Floodplain Manager, at (619) 553-7482. The San Diego County floodplain manager can be reached by calling Sara Agahi, Flood Control District Manager, at (858) 694-2665.

If you have any questions or concerns, please do not hesitate to call Mark Delorey of the Mitigation staff at (510) 627-7057.

Sincerely,



Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

Wileen Manaois, Real Estate Development

Page 3

March 23, 2017

cc:

Jamal Batta, CFM, P.E., Floodplain Manager, City of San Diego

Sara Agahi, Flood Control District Manager, San Diego County

Garret Tam Sing/Salomon Miranda, State of California, Department of Water Resources,
Southern Region Office

Mark Delorey, NFIP Compliance Officer, DHS/FEMA Region IX

Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

Response to Comment A-1

This comment is an introductory statement indicating that the Federal Emergency Management Agency (FEMA) is providing comments on the Draft EIR for the proposed project.

The District appreciates FEMA's interest in the proposed project. This comment does not raise any environmental issues requiring a response pursuant to the California Environmental Quality Act (CEQA). The specific comments raised in the pages that follow this introduction are listed separately along with the District's individual responses.

Response to Comment A-2

This comment is requesting that the District review the current effective countywide Flood Insurance Rate Maps for the County of San Diego and City of San Diego, and identifies the City and County of San Diego as participants in the National Flood Insurance Program (NFIP). The comment also identifies the basic NFIP floodplain management building requirements as described in Volume 44 of the Code of Federal Regulations (CFR), Sections 59 through 65.

The District acknowledges the City and County of San Diego as participants in the NFIP. The proposed project involves the adoption of an ordinance to govern existing and proposed new fireworks display events in San Diego Bay and the Imperial Beach Oceanfront, as well as four proposed new fireworks display events in San Diego Bay adjacent to the National City and Chula Vista Bayfronts. During preparation of the Draft EIR, the District reviewed the Flood Insurance Rate Maps within the vicinity of the proposed project. However, the project does not propose the construction of any buildings or other structures; therefore, the NFIP floodplain management building requirements are not applicable to the proposed project. No changes to the Final EIR are required.

Response to Comment A-3

The comment letter concludes by noting that many communities that participate in the NFIP have adopted floodplain management building requirements that are more stringent than the federal standards described in Volume 44 of the CFR, and provides the contact information for the City and County of San Diego floodplain managers. The commenter provides the FEMA contact name and information. As previously stated in the response to comment A-2, the NFIP floodplain management building requirements are not applicable to the proposed project.

The District appreciates FEMA's interest in the proposed project. This comment does not raise any environmental issues requiring a response pursuant to CEQA, as the floodplain management building requirements do not apply to the proposed project. No changes to the Final EIR are required.

4.4.2 Comment Letter B: U.S. Fish and Wildlife Service



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

San Diego National Wildlife Refuge Complex
P.O. Box 2358
Chula Vista, California 91912



In Reply Refer To:
FWS-SDG-15B0320-17CPA0125

May 2, 2017
Sent by Email

Ms. Wileen Manaois
Real Estate Development Department
San Diego Unified Port District
3165 Pacific Highway
San Diego, California 92101-1128

Subject: Comments on the San Diego Unified Port District's Draft Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115)

Dear Ms. Manaois:

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced Draft Environmental Impact Report (DEIR) for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (Project), in San Diego County, California. The enclosed comments are based on information provided in the DEIR and the Service's knowledge of sensitive and declining species and their habitats.

B-1 The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The Service also owns and operates National Wildlife Refuges (NWR).

For the proposed project, the San Diego Unified Port District (Port) will (1) develop an ordinance establishing a District Code section to govern existing and proposed new fireworks display events within San Diego Bay and the Imperial Beach oceanfront, and (2) support four new fireworks display events in south San Diego Bay adjacent to the National City and Chula Vista Bayfront.

B-2 We have previously provided the Port comments on the notice of preparation of the DEIR in letter dated October 6, 2015, as well as recommendations regarding fireworks displays in San Diego Bay in letters dated May 9, 2016, and January 11, 2007, which are attached and incorporated

B-2 cont. | herein by reference. While the DEIR addresses some of our past comments, many are not adequately addressed.

B-3 | We have worked with fireworks sponsors, organizers, and operators to develop minimization measures for the federally listed threatened western snowy plover (Pacific Coast population DPS) [*Charadrius nivosus nivosus* (*C. alexandrinus* n.); plover], as well as the endangered California least tern [*Sterna antillarum browni* (*Sterna a. b.*); least tern] and light-footed Ridgway’s (=clapper) rail [*Rallus obsoletus* (=longirostris) *levipes*; rail]. In our May 9, 2017, letter, we specifically recommended that fireworks shows be excluded from South San Diego Bay during the nesting season.

B-4 | However, we continue to have concerns that fireworks conducted in south San Diego Bay will also result in impacts to nesting, roosting, rafting, and foraging seabirds, shorebirds, and waterfowl. Our concerns stem from the proximity of proposed fireworks launch sites in south San Diego Bay to the San Diego Bay NWR (Refuge) which supports thousands of nesting and wintering birds and is subject to low levels of disturbance under baseline conditions. As discussed in the Biological Technical Study (EIR, Appendix F), there is potential for avian behavioral responses to the bright lights, noise, and vibration associated with fireworks. In addition, fireworks events in south San Diego Bay may result in significant spectator presence on and near the Refuge. Due to our concerns regarding the potential direct and indirect effects of a fireworks show, we continue to recommend that fireworks shows do not occur in the vicinity of the Chula Vista Bayfront. We also recommend that the Port consider an alternative that will not introduce night time fireworks disturbance to the vicinity of the Refuge.

Specific Comments:

Chapter 2 – Environmental Setting

1) Fireworks Launch Site for the Proposed National City Fireworks Display

B-5 | The description of the location for the temporary barge that “would take place within view of Pepper Park,” as described on 2-12 of the draft EIR, appears to be inconsistent with Figure 2-1. The text states the “fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the vicinity of Pepper Park.” This text implies that the barge would be located within the Sweetwater River flood control channel; however, Figure 2-1 indicates that the site would be well to the north of Pepper Park, where there appears to be little or no public access to the waterfront. The location of potential barge sites should be clarified in the document, as the proposed location could have significant, adverse effects on least terns that nest on the D Street Fill. The understanding of the exact locations in which the fireworks displays can occur is further complicated by language provided on page 4.3-5, which states: “The sites for the proposed new fireworks display events are within and/or adjacent to the District’s jurisdiction within San Diego Bay along

B-5 cont. | the National City and Chula Vista Bayfronts. These proposed new displays are anticipated to occur on barges and/or piers within these locations” (emphasis added). Chapter 2 does not address the potential for the new sites to include pier areas. If the use of piers in addition to barges is being considered for the new sites, the draft EIR should be redistributed to public comment after it has been revised to identify potential pier sites and to address the potential impacts of using those pier sites for fireworks displays.

2) Fireworks Launch Site for the Proposed Chula Vista Bayfront Fireworks Display

B-6 | Page 2-13 states “A total of three fireworks display events (including one on the Fourth of July) along the Chula Vista Bayfront area ... are anticipated to involve the placement of a single, temporary barge in the Bay in the vicinity of the two parks.” Based on the information provided in Figure 2-1, it appears that the proposed location of this barge occurs within the boundaries of the Refuge. If the barge is to be located within the boundaries of the Refuge, the draft EIR should be revised to acknowledge that the proposal would require a Special Use Permit from the Refuge, as well as compliance with National Environmental Policy Act (NEPA). Additional discussion of this issue is provided below.

Chapter 4, Section 4.3 – Biological Resources

B-7 | 1) The habitat information provided in Figure 4.3-1 is incomplete and should be updated to show salt marsh in the western salt ponds, which were restored in 2011. In addition, the D Street Fill and South Bay Salt Works levees should be shown as supporting seabird and shorebird nesting habitat, including least terns and snowy plovers.

B-8 | 2) The habitat information provided in Figure 4.3-2 is incomplete and should be updated to include snowy plover habitat at Silver Strand State Beach and the Navy’s proposed alternate least tern nesting site at Naval Air Station, North Island. The polygon(s) depicted in the legend as “Sensitive Nesting Areas 1 mile” will need to be adjusted once the missing nesting habitat is added to the figure.

B-9 | 3) The discussion of the San Diego Bay’s subtidal vegetated habitat on page 4.3-7 should also address the importance of this habitat to the bay’s population of eastern Pacific green sea turtles.

B-10 | 4) The discussion under *Upland Transition and Upland Areas* on page 4.3-9 should be expanded to acknowledge the significant seabird nesting areas that occur in proximity to the proposed fireworks launch sites. These include the D Street Fill, located immediately south of Pepper Park, which is a mitigation site set aside as nesting habitat for the least tern and snowy plover, and the levees of the South Bay Salt Works that support tens of thousands of nesting waterbirds between the months of March and September. The significance of these nesting areas is highlighted by the fact that in 2016, the San Diego

B-10 cont. | Bay Refgure is estimated to have supported over 60,000 waterbird nests representing 16 species. The effects of impacts to this number of nesting birds should be evaluated in the effects section.

B-11 | 5) On page 4.3-10, note that the South Bay Salt Ponds are part of the Refuge, and not a separate area.

B-12 | 6) On page 4.3-11, note that the South Bay Salt Works levees and Pond 11 are managed by the Service, not the District.

B-13 | 7) Table 4.3-2 inaccurately states that eastern Pacific green sea turtle have a low potential to occur in San Diego Bay. Researchers continue to tag and monitor green sea turtles in San Diego Bay (Madrak *et al.* 2016), particularly in the south end of the Bay. In addition, norther harriers are routinely observed at Sweetwater Marsh and in the south bay, therefore, they have a high potential to occur in the affected area.

B-14 | 8) As addressed previously, the location proposed as a fireworks launch site for the Chula Vista Bayfront appears to be located within the boundaries of the Refuge; therefore, the discussion of applicable laws and regulations related to the Refuge on Page 4.3-19 should be expanded to address Federal regulations related to uses on a NWR. Uses on a NWR require compliance with the National Wildlife Refuge System (NWRS) Administration Act of 1966 as amended by the NWRS Improvement Act of 1997, 16 U.S.C. 668dd-668ee (Improvement Act) and the National Environmental Policy Act (NEPA).

B-15 | The Improvement Act provides clear standards for management, use, planning, and growth of the NWRS. The Improvement Act requires that each refuge be managed to fulfill the “wildlife first” mission of the NWRS, as well as the specific purposes for which a refuge was established. The Refuge was established to protect, manage, and restore habitats for federally listed endangered and threatened species and migratory birds, as described in the Act, and maintain and enhance the biological diversity of native plants and animals, as described in the Fish and Wildlife Act of 1956, as amended.

In accordance with the Improvement Act, uses permitted on a NWR must be determined to be compatible with the mission of the NWRS and Refuge purposes. The Service’s Appropriate Use Policy (*Service Manual, Part 603 FW 1*) provides a national framework for determining appropriate refuge uses and outlines the procedures refuge managers must follow when deciding if a new or existing use is an appropriate use on the refuge. The proposed use must contribute to the public’s understanding and appreciation of the refuge’s natural or cultural resources, or must be beneficial to the refuge’s natural or cultural resources. If this is not the case, such a use would generally be considered not appropriate.

- B-15 cont.

If a use is determined to be appropriate, it must then be evaluated for compatibility. The Service’s Compatibility Policy (*Service Manual, Part 603 FW 2*) includes guidelines for determining if a use proposed is compatible with Refuge purposes. A compatible use is defined in the policy as a proposed or existing use of a NWR that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the NWRS mission or the purposes for which the Refuge was established.

Another significant directive of the Improvement Act is to ensure that we maintain the ecological integrity of the NWRS for present and future generations of Americans. Uses that we reasonably may anticipate to conflict with pursuing this directive are contrary to fulfilling the NWRS mission and are therefore not compatible. Under the authorities of the Improvement Act, fireworks displays conducted on a NWR would not represent an appropriate or compatible use of Refuge lands. As such, a Refuge Special Use Permit to allow such events could not be issued.
- B-16

9) If there is the potential for a barge to be sited within Sweetwater River flood control channel in the vicinity of Pepper Park or for the fireworks launch site for the National City and/or Chula Vista Bayfront to be located somewhere other than the location shown in Figure 2-1, the discussion of impacts to birds and listed species should be expanded. This is particularly important because of the potential for significant adverse effects to sensitive salt marsh habitat, nesting least terns, and resident rails as a result of siting the fireworks barge in the Sweetwater River channel or in proximity to the outer levees of the salt works.
- B-17

10) The proposed mitigation measures, particularly those intended to minimize indirect impacts related to human disturbance of nesting areas, are inadequate as they only address public viewing areas. The areas that would be affected include open water areas, and areas that are not open to the public, but would be subject to unauthorized access as a result of the proposed action.
- B-18

11) There is no monitoring proposed to determine if the measures included in the DEIR for mitigating both direct and indirect impacts are being implemented and/or are effective in avoiding and minimizing impact to nesting least terns, snowy plovers and rails. The DEIR should include requirements for monitoring to assess the initial response and overall effects to nesting success on these species.
- B-19

12) The DEIR should characterize the difference in ambient night time disturbance levels at nest sites in north San Diego Bay and the nest sites at the Refuge. The DEIR should distinguish between the baseline conditions at these sites.
- B-20

13) Appendix F of the DEIR discusses previous fireworks monitoring efforts at (1) a north San Diego Bay least tern colony (San Diego International Airport; Airport), (2) at Naval Base Coronado, (3) at Gualala Point, and (4) in the Netherlands. Although the

B-20
cont.

results from these studies demonstrate that individual birds are likely to display a direct physiological stress response, Appendix F (re-iterated in section 4.3) concludes that “it does not appear that the level of disturbance stress generated from the fireworks translate to a level achieving harassment or harm for avian species”. This conclusion is not consistent with the result of the Gualala Point study, which concluded that nests had been abandoned as a result of the fireworks display. Nest abandonment and likely chick mortality was also documented subsequent to the Big Bay Boom in 2012, when a malfunction resulted in the detonation of all of the fireworks in a short period (Patton 2012, pers. comm.). Based on the nesting chronology of the least tern, western snowy plover, and rail, it is likely that there will be active nests and adults brooding dependent chicks during the proposed 4th of July event. Although we agree that it is difficult to quantify the number or extent of impacts, we remain concerned that individual nests or chicks may be abandoned due to the night time disturbance, or chicks may flee into harm’s way, particularly since the Refuge sites are not subject to night time disturbances under baseline conditions. For example, least tern habitat at the Refuge is subject to less night time disturbance than least tern habitat at the Airport. The monitoring reports from the Airport nest site state “colonies elsewhere with less habituation to noises would be expected to react more than those at the airport, and the observed flushing of adults, fledglings, and running of chicks in response to the fireworks confirm fears of possible threat of fledglings relocating to roost in active roadways, taxiways or runway following dispersal due to fireworks.” Therefore, we anticipate that the response of avian species at the Refuge will be greater than that observed at the Airport and Naval Base Coronado.

B-21

14) The DEIR should include conservation measures to avoid and minimize the potential impacts of the Project on sensitive wildlife. The Carlsbad Fish and Wildlife Office (CFWO) has previously recommended conservation measures be included to existing and ongoing fireworks displays specifically to avoid and/or minimize potential impacts to nesting least terns and snowy plovers, including: (1) Location of discharge sites for fireworks as far away as possible (minimum of 1 mile) from the nearest least tern or snowy plover nesting site; (2) Delineation and law enforcement patrol of shoreline around least tern and snowy plover nesting areas to prevent spectators from coming ashore or anchoring in eelgrass beds; (3) Reduction in shell size to reduce the percussive vibrations associated with fireworks detonations; (4) Development and implementation of a least tern, snowy plover and rail monitoring approach approved by the CFWO; and (5) Development of a plan to mitigate any negative impacts (to least terns, snowy plovers and rails) observed by the monitoring biologist.

B-22

The DEIR should discuss the occurrence and location of rafting bird species during the non-breeding season, the anticipated footprint of increased boat traffic, and the likely impacts of increased boat traffic on rafting birds in south San Diego Bay. In addition, the DEIR should specify minimization measures to reduce the impacts of increased boat traffic on rafting birds.

B-23

Thank you for the opportunity to comment on the DEIR. We request a meeting with the Port to go over our comments and concerns regarding the Project.

If you have any questions regarding this letter, please contact Sandy Vissman of the Carlsbad Fish and Wildlife Office at (760) 431-9440 or Brian Collins of the San Diego National Wildlife Refuge at (619) 575-2704.

Sincerely,



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Karen A. Goebel
Assistant Field Supervisor
Carlsbad Fish and Wildlife Office

**ANDREW
YUEN**

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Andrew Yuen
Project Leader
San Diego National Wildlife Refuge Complex

Enclosure

LITERATURE CITED

Personal Communication

Patton, R. 2012. Email distribution of monitoring results from July 4, 2012. Least tern monitoring at San Diego International Airport. 1 page.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
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In Reply Refer To:
FWS-SDG-15B0320-16CPA0275

MAY 09 2016

Eileen Maher
Principal, Environmental Conservation
San Diego Unified Port District
3165 Pacific Highway
San Diego, California 92101

Subject: San Diego Bay and Imperial Beach Fireworks Shows on July 4, 2016

Dear Ms. Maher:

B-24

This letter responds to your request for guidance from the U.S. Fish and Wildlife Service (Service) to reduce potential impacts to sensitive wildlife from the San Diego Bay (Big Bay Boom) and Imperial Beach (IB) fireworks shows on July 4, 2016, funded by the Port of San Diego (Port). We appreciate your efforts to incorporate measures that address wildlife concerns into the 2016 fireworks shows, as the primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States, and is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). We previously provided comments on the Port's Notice of Preparation of a Draft Environmental Impact Report for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115)(DEIR)(Port 2015) in our letter dated October 6, 2015 (FWS-SDG-15B0320-15CPA0334)(Service 2015).

B-25

We are pleased that, consistent with recommendations in our October 6, 2015, letter, no fireworks shows are proposed at the Chula Vista Bayfront or Loew's Coronado Resort. Due to their close proximity to sensitive wildlife, including the federally listed threatened western snowy plover (*Charadrius nivosus nivosus*; snowy plover), as well as the endangered California least tern [*Sterna antillarum browni* (*Sterna a. b.*); least tern] and light-footed Ridgway's (=clapper) rail [*Rallus obsoletus* (=longirostris) *levipes*; rail] nesting sites, we recommend that the Chula Vista Bayfront and Loew's Coronado Resort be excluded from future fireworks shows during the nesting season.

B-26

The Big Bay Boom and IB fireworks shows will occur in north San Diego Bay (Bay) and IB in the same locations as previous shows. Both shows will last 18 minutes, and be launched from four barges in the north Bay and from the IB Pier. Shells launched within the Bay would be a

B-26 cont. maximum of 10-inch shells, and those launched from the IB Pier would be a maximum of 8-inch shells.

B-27 As outlined in our October 6, 2015, letter, our primary concern with fireworks shows is the potential impact to wildlife from the fireworks, spectators, and introduction of harmful chemicals and debris into the water. Numerous birds species, including the snowy plover, least tern and Ridgway's rail, use wetlands, shoreline habitats, and/or open water of the Bay and Pacific Ocean in the vicinity of the proposed fireworks shows.

B-28 Birds in areas close to fireworks shows are likely to be exposed to the explosive noises, vibrations, and bright flashes of light which may disrupt normal breeding and roosting behavior. Potential avian responses to fireworks include flushing from nests and nest abandonment (Stephensen *et al.* 2012; Weigand and McChesney 2008; Patton 2012, 2013, 2015), although these responses are not always observed (Heinz 2013; Elliott 2014). Reduced avian parental attendance from flushing exposes eggs and/or chicks to night time air temperatures and predators, and may result in changes in hatchability/survivorship depending upon variables such as the length of parental absence, temperature, and predator presence. Illumination and disturbance from fireworks may result in increased visibility of birds, eggs or chicks to predators, particularly in exposed habitat. In addition, spectators of the fireworks shows may disturb or harm breeding or roosting birds, eggs, or chicks (Caffree 1993). Spectator boats traveling within the Bay at night may disturb or collide with rafting birds. Spectators may also leave trash and food waste, which can attract potential predators to sensitive areas. Fireworks launched over water deposit debris and chemical constituents of expended shells into the water, which could indirectly affect birds.

B-29 The least tern nests at the San Diego International Airport (SDIA) and Naval Air Station, North Island (NASNI) about 1 mile from Bay launch site. The least tern also nests at the mouth of the Tijuana River in the Tijuana Slough National Wildlife Refuge (Refuge) about 1.5 miles south of the IB Pier launch site. The snowy plover nests on the beaches to the north and south of the IB Pier. Nest distribution shifts from year to year, and in 2014, two snowy plover nests were initiated less than 1 mile north and south of the IB Pier launch site (Navy 2015; Patton 2015, pers. comm.). The rail occupies the Oneonta Slough, within the Refuge, about 0.5 mile south of the IB Pier launch site. Recent monitoring estimated 127 rail pairs in the slough in 2016 (Collins 2016, pers. comm.).

B-30 Our October 6, 2015, letter recommended several conservation measures for fireworks shows to avoid and/or minimize potential impacts to least terns and snowy plovers. Consistent with our recommendations, the Port proposes to implement the following measures: 1) locating launch sites greater than 1 mile from least tern nesting sites; 2) installing signs to prevent trespass into the Refuge; 3) limiting maximum shell size to 10 inches in the Bay, and 8 inches at IB Pier; 4) limiting show length at 18 minutes; 5) picking up floating and shoreline debris after the event; 6) monitoring least tern nesting at the SDIA; and 7) monitoring water quality after the event in compliance with the Regional Water Quality Control Board fireworks permit. We appreciate the

B-30 [Port’s proposed minimization measures and offer the following comments and suggestions to
cont.] further reduce the potential for impacts to snowy plovers, least terns, and rails.

B-31 [Active least tern nests, chicks and adults will likely be present at the SDIA, NASNI and Refuge
nesting sites during the fireworks shows. Based on the baseline level of disturbance at these sites
and the results of previous monitoring, we anticipate that the Big Bay Boom fireworks show will
temporarily disrupt least tern nesting and roosting at SDIA and NASNI (Patton 2013), and will
temporarily separate parents from flightless chicks. Spectators that view the Big Bay Boom from
the parking lot adjacent to SDIA Oval O-3S could also disrupt or harm nesting or roosting terns.
The least tern nesting site at the Refuge was not monitored during past fireworks shows and we
do not have information regarding the response of this colony to fireworks. However, due to the
greater distance from the launch site (i.e., 1.5 miles) and smaller shell size (i.e., 8-inch) we
expect the fireworks show at IB to disrupt least tern nesting to a lesser degree than at SDIA.
However, spectators that view the IB show from the beach south of Sea Coast Drive could
disrupt or harm nesting or roosting terns at the mouth of the Tijuana River.

B-32 [While the current proposed launch locations are consistent with our recommendation that launch
sites be at least 1 mile from nest sites, we note that least terns nesting at SDIA (about 1 mile from
the Bay launch site) were observed to flush from nests during past Big Bay Boom fireworks
shows (Patton 2012, 2013, 2015). A firework study conducted in San Francisco Bay detected no
least tern flushing from nests when fireworks were launched about 2 miles from the colony (Elliott
2014). Therefore, we recommend that the Port increase the distance between the least tern
colonies and the Big Bay Boom launch sites as much as possible to reduce the disturbance to a
level that does not result in least tern flushing. To reduce the potential for spectator disturbance
at the SDIA nesting site, we recommend that the Port close the parking lot that lies adjacent to
nesting oval O3-S on July 4. To reduce the potential for spectator disturbance at the Refuge
nesting site, we recommend that the Port coordinate with the City of IB and the Refuge staff to
assure that, in addition to signage, adequate enforcement personnel are present south of IB Pier
to prevent spectators from entering into the nesting site. Specifically, we recommend that a
uniformed enforcement agent be stationed at the south end of Sea Coast Drive on the evening of
July 4.

B-33 [Active snowy plover nests, chicks and adults will likely be present on the beaches to the north
and south of the IB Pier during the IB fireworks show. We recommend that the Port coordinate
with the City of IB and Refuge to assure that signage and enforcement presence is in place to the
north of the IB Pier, as well as to the south (recommended above to protect least terns), to reduce
spectator foot traffic in snowy plover nesting habitat. Specifically, we recommend that a uniformed
enforcement agent be stationed at the Navy’s “Camp Surf” on the evening of July 4.

B-34 [It is likely that Oneonta Slough will support active rail nests, chicks, and adults during the IB
fireworks show. We anticipate disturbance to rails, given the close proximity of the IB Pier
launch site, and encourage the Port to offset disturbance by contributing to the efforts to improve
rail habitat, maintain water quality, reduce human and pet disturbance, and open the mouth of the
Tijuana Estuary consistent with the Light-footed Clapper Rail Recovery Plan (Service 1985).

B-35 [The Port proposes to deploy “No Trespass” signs to reduce the potential for unintended spectator impacts to rail nesting. We also recommend that the Port coordinate with the City of IB and the Refuge staff to assure that adequate enforcement is present to prevent spectators from entering into the Tijuana Slough nesting site. Specifically, we recommend that a uniformed enforcement agent be stationed at the south end of Sea Coast Drive on the evening of July 4 (as recommended above in reference to least tern and snowy plover protection). In addition, we recommend that the Port clean up any trash or food waste left by spectators near least tern, snowy plover and rail nesting sites.

B-36 [Biological monitoring during anthropogenic activities such as fireworks shows can provide valuable information that increases our understanding of wildlife response to potential disturbance. Information obtained during monitoring may assist in assessment of effects of future activities, and can also help us to refine minimization measures. Biological monitoring during night time activities, such as fireworks shows, presents unique challenges since observations are compromised by lack of light and nocturnal disturbance from the monitoring itself may impact birds. Monitoring nest sites before and after disturbance events can also aid in assessment of impacts, particularly in situations where night time monitoring is problematic. We recommend monitoring of least terns and snowy plovers, as described below, however we do not recommend monitoring of rails at this time due to the potential for disturbance associated with monitoring (Zembal 2016, pers. comm.).

B-37 [The Port proposes to monitor the least tern colony at SDIA, and we recommend that, similar to previous years, monitoring occur on the following dates and times: July 3 and July 4, 1 hour before, during, and 1 hour after the time of the fireworks show; and July 5, early in the morning. Monitoring should include assessment of nest attendance (or abandonment), and estimates of adult, chick, and fledgling numbers and behavior, including any observed responses to fireworks shells. We recommend that the Port also coordinate with the Navy regarding comparable least tern monitoring at NASNI. We also recommend that the noise and vibration be monitored at SDIA and NASNI. Reporting should include the noise and vibration levels before and during the fireworks show; the location of the night roosts (if possible); observations of spectator disturbance; observations of least tern response to fireworks and spectators; estimated number of adult least terns, active nests, and chicks onsite before and after the fireworks show; and any evidence of harm to least terns.

B-38 [We recommend that the least tern nesting colony at the Refuge be monitored on July 4 prior to the event, and in the morning on July 5 to assess colony attendance and estimate the number of active nests and chicks present onsite. Reporting should include the location of roosting/nesting area(s) and the estimated number of adult least terns, active nests, fledglings, and chicks onsite, and any observations of nest disturbance or harm to least terns.

B-39 [No snowy plover monitoring has been proposed by the Port, however we recommend that the Port coordinate with the Refuge and Navy to determine if active snowy plover nests or broods lie within 1.5 miles of the IB Pier launch site on July 3. If active nests or broods occur within this area, we recommend monitoring on July 4 and 5 to assess nest activity and brood presence

B-39
cont. [before and after the fireworks display. Reporting should include the location of nests and broods, the number of active nests, chicks and adults onsite, and any observations of nest disturbance or harm to snowy plovers.

B-40 [We appreciate the opportunity to provide recommendations to reduce potential impacts to sensitive wildlife from the Big Bay Boom and IB fireworks shows. Results from our recommended monitoring should aid the preparation of the DEIR for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project. We request that the Port provide a response to our recommendations and a draft monitoring plan for our review by June 1, 2016, and a monitoring report by September 15, 2016. Should you have any questions regarding this letter or need further assistance, please contact Sandy Vissman at (760) 431-9440, extension 274.

Sincerely,



Karen A. Goebel
Assistant Field Supervisor

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
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Carlsbad, California 92008



In Reply Refer To:
FWS-SDG-15B0320-15CPA0334

OCT 06 2015

Mr. Jason H. Giffen
Director, Environmental Land Use and Management
San Diego Unified Port District
P.O. Box 120488
San Diego, California 92112-0488

Subject: Comments on the Notice of Preparation of a Draft Environmental Impact Report for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115), in San Diego County, California

Dear Mr. Giffen:

The U.S. Fish and Wildlife Service (Service) has reviewed the Notice of Preparation of a Draft Environmental Impact Report (EIR) for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (NOP). The NOP describes the proposed project and was distributed to the Service to request guidance regarding the scope and content of the environmental information to be included in the EIR. The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

B-41 The proposed Project involves continued permitting of ongoing and proposed fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront in San Diego County, California. Current fireworks display events include the "Big Bay Boom" and other smaller events operated by the San Diego Unified Port District's (District's) tenants. Proposed fireworks displays include fireworks on the Chula Vista Bayfront. Fireworks are detonated from flight decks, barges, and/or piers located adjacent to, or in the waters of San Diego Bay or the Imperial Beach Oceanfront. The District estimates that at this time approximately 50 fireworks displays are permitted per year, and anticipates that firework displays within the Project Area are likely to increase at a rate of 2 percent per year. Fireworks displays currently occur year-round, with a duration ranging from 5-20 minutes. Existing events occur at South Embarcadero, North Embarcadero, near Shelter Island, near Harbor Island, Glorietta Bay, and Imperial Beach Oceanfront.

B-41
cont.

We appreciate the efforts of the District to address the cumulative impacts of multiple fireworks displays in the proposed DEIR, and offer the following comments and recommendations to assist the District in identifying, avoiding, minimizing, and adequately mitigating direct and indirect project-related impacts to fish and wildlife resources, including Endangered and Threatened species:

B-42

1. San Diego Bay and the Imperial Beach Oceanfront, including the vicinity of some launch and viewing sites, support resident and migratory sea birds, shore birds, passerines, endangered bird species, sea turtles, fish, and marine mammals. Significant populations of birds use portions of San Diego Bay year round: during the summer months thousands of birds nest, breed, and raise young, particularly in south San Diego Bay; and during the winter months, thousands of migrating or wintering waterfowl take refuge in the Bay. Fireworks displays include significant levels of light, noise, and vibration known in some instances to result in temporary disturbance to wildlife (Patton 2013; Sandoval 2005). Fireworks may also disrupt roosting and exacerbate predation pressure (Caffree 1994). If launched over or near the water, displays may deposit residual debris and chemical constituents into the water and thereby affect water quality (San Diego Regional Water Quality Control Board 2011). Please include in the DEIR a thorough review of the available literature pertaining to the potential or documented impacts of fireworks displays or similar punctuated disturbances on wildlife.

B-43

2. To facilitate assessment of the environmental effects of the proposed action, we recommend that the DEIR include: 1) a figure that depicts the precise location of existing and future proposed launch sites; 2) a figure depicting the location of sensitive resource use areas within the vicinity of proposed launch sites (including, but not limited to, Sweetwater National Wildlife Refuge, Chula Vista Wildlife Reserve, South San Diego Bay Unit of San Diego National Wildlife Refuge, San Diego International Airport Least Tern Nesting Area, Naval Base Coronado Delta Beaches, Naval Base Coronado “heron park”, Tijuana National Wildlife Refuge, marine mammal haul out areas); 3) a figure that depicts the location and abundance of rare, endangered, and other sensitive species that occur in the vicinity of proposed launch sites (including, but not limited to, federally threatened Western snowy plover (*Charadrius nivosus nivosus*, snowy plover), federally endangered California least tern (*Sternula antillarum browni*, least tern), federally endangered Light-footed clapper rail, recently reclassified as “Ridgeway’s rail” (*Rallus longirostris levipes*, clapper rail), Belding’s Savannah sparrow (*Passerculus sandwichensis beldingi*, Savannah sparrow), American Peregrine falcon (*Falco peregrinus anatum*, peregrine falcon), gull-billed tern (*Gelochelidon nilotica*)); 4) information regarding the abundance and distribution of water birds use San Diego Bay, Tijuana Estuary, and Imperial Beach (for example, information available from San Diego Bay bird surveys supported by the U.S. Navy and the District, annual San Diego Shorebird Survey, and San Diego National Wildlife Refuge bird surveys).

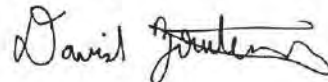
- B-44 | 3. Please include in the DEIR detailed information regarding the number, location, and duration of baseline events that have occurred in recent years, and the number, location, and duration of additional proposed events (i.e. events that have been permitted by the District, but have not yet occurred).
- B-45 | 4. The DEIR should include an analysis of the intensity and extent of light, sound, vibration, and debris/fallout anticipated as a result of the fireworks displays, based on the size and number of fireworks shells that will be used. The analysis of the effects of the proposed action should include an assessment of the areas where light, sound, vibration, and debris are expected to have a direct impact on wildlife.
- B-46 | 5. The DEIR should include an analysis of the potential indirect effects of the fireworks displays on wildlife resources in the Project Area. Potential indirect effects of fireworks displays include, but are not limited to: disturbance or impacts to resources from spectators, changes in water quality associated with debris or fallout from fireworks.
- B-47 | 6. The Carlsbad Fish and Wildlife Office has previously recommended, and continues to recommend that the no fireworks displays occur within the Chula Vista Bayfront during the avian breeding season (generally January-September) due to the close proximity to the abundance of sensitive wildlife resources that occur within and around the Sweetwater National Wildlife Refuge, the South San Diego Bay National Wildlife Refuge (Wildlife Refuges), and the Chula Vista Wildlife Reserve. Similarly, we have recommended and continue to recommend that fireworks displays be minimized at the Loew's Coronado Resort during the avian breeding season due to the proximity of this hotel to protected least tern and snowy plover habitat at Silver Strand State Beach and Naval Base Coronado.
- B-48 | 7. The DEIR should include conservation measures to avoid and minimize the potential impacts of the Project on sensitive wildlife. The Carlsbad Fish and Wildlife Office has previously recommended conservation measures be included to existing and ongoing fireworks displays specifically to avoid and/or minimize potential impacts to nesting least terns and snowy plovers, including: 1) Location of discharge sites for fireworks as far away as possible (minimum of 1 mile) from the nearest least tern or snowy plover nesting site; 2) Delineation and law enforcement patrol of shoreline around least tern and snowy plover nesting areas to prevent spectators from coming ashore or anchoring in eelgrass beds; 3) Reduction in shell size to reduce the percussive vibrations associated with fireworks detonations; 4) Development and implementation of a least tern and snowy plover monitoring approach approved by the CFWO; 5) Development of a plan to mitigate any negative impacts (to least terns and snowy plovers) observed by the monitoring biologist.

B-49

8. The District estimates that fireworks displays may increase approximately 2 percent per year. The DEIR should analyze the need for an increased number of fireworks displays. We recommend that the District consider limiting the number of fireworks displays that may occur throughout the year at approved launch sites.

We appreciate the opportunity to provide comments on this NOP. Should you have any questions regarding this letter, please contact Sandy Vissman of my staff at (760) 431-9440.

Sincerely,



for: Karen A. Goebel
Assistant Field Supervisor

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Sandoval, C. 2005. Final report on the Western Snowy Plovers, Coal Oil Point Reserve, Santa Barbara, California.



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In Reply Refer To:
FWS-SDG-3978.4

Jan 11 2007

Mr. Ralph Hicks
Director, Land Use Planning
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92112-0488

Subject: Comments on the Draft Environmental Impact Report for the Chula Vista Bayfront Master Plan and Port Master Plan Amendment, City of Chula Vista, California (SCH #2005081077)

Dear Mr. Hicks,

The U.S. Fish and Wildlife Service (Service) and California Department of Fish and Game (Department) (collectively referred to as 'Wildlife Agencies') have reviewed the above-referenced draft Environmental Impact Report (DEIR) and supporting documentation for the Chula Vista Bayfront Master Plan and Port Master Plan Amendment (Proposed Project), dated September 29, 2006. The public review period for the DEIR ends January 11, 2007. The comments provided in this letter represent our concerns about the Proposed Project's potential impacts on sensitive biological resources.

The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Endangered Species Act (16 U.S.C. 1531 *et seq.*). The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA) Guidelines, Sections 15386 and 15381, respectively. The Department is responsible for the conservation, protection, and management of the state's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act and other sections of the Fish and Game Code, and administers the Natural Community Conservation Planning (NCCP) program.

The 562-acre Chula Vista Bayfront (Bayfront) is located on the southeastern edge of San Diego Bay in the City of Chula Vista. The subject planning area shares a common border with the Sweetwater Marsh Unit of the San Diego Bay NWR at its northern boundary and the South San Diego Bay Unit of the San Diego Bay NWR at its southern boundary. In 2002, the San Diego Unified Port District (Port) and the City of Chula Vista (City) joined together to prepare a master



plan for the Bayfront, which includes approximately 500 acres of land area and 62 acres of water area. Proposed uses include hotel, retail, entertainment, conference center, office, residential, civic/cultural, marina and ferry terminal, recreation, parkland, environmental buffers, a public pier, and associated public facilities such as streets, bikeways, pedestrian paths, and parking structures. Key components of the Proposed Project described in the DEIR include:

- A resort conference center and other hotels with a maximum height limit of 300 feet (25 stories);
- Up to 2,000 residential units with a maximum height limit that ranges from 300 feet in the Harbor District to 200 feet in the Otay District;
- Mixed use office and commercial recreation uses with maximum allowable heights ranging from 85 to 200 feet in the Harbor District and 40 to 100 feet in the Sweetwater District;
- Waterfront retail uses and public gathering spaces around the harbor;
- A new commercial harbor, ferry terminal, and realigned navigation channel;
- A 21-acre public park and other open space areas;
- A public promenade and bike trail through the entire Bayfront;
- A new traffic circulation system, storm water system, and the installation of various other public services and facilities to serve the proposed uses; and
- The relocation of the existing power plant to the southern end of the planning area.

The master planning area has been divided into three districts: the northern 129-acre Sweetwater District; the central 280-acre Harbor District; and the southern 153-acre Otay District. Development within the planning area would occur in three phases over an approximately 25-year period. Construction of Phase I is proposed to begin upon project approval and conclude approximately six years later. Phase I components would be concentrated in the Harbor and Sweetwater Districts. Phase II construction would be completed approximately five years after the completion of Phase I and Phase III is expected to be completed approximately 13 years after the completion of Phase II.

As the master plan represents a joint planning effort covering a large area of land and water, a number of jurisdictional issues must be addressed and resolved. The Port currently has jurisdiction over much of the land and water areas, while the City currently exercises jurisdiction over some of the inland portions of the planning area. The Proposed Project includes a land exchange between the Port and a private developer. This land exchange would include the transfer of up to 97 acres of land in the Sweetwater District from a private developer to the Port, in exchange for up to 57 acres of land in the Harbor and Otay Districts from the Port to the private developer. In association with this exchange, lands currently designated for residential use in the Sweetwater District would be redesignated for uses permitted on State tidelands and areas in the Harbor and Otay District would be redesignated to allow for residential development.

The DEIR also addresses the following Project-related actions: an amendment to the Port Master Plan; a coastal development permit for those portions of the project that would occur within the Port's jurisdiction; an amendment to the City's Bayfront Area Plan of the General Plan; amendments to the City's Local Coastal Program, Bayfront Specific Plan, and Bayfront/Town Centre 1 Redevelopment Plan; approval of a dredging permit from the State Lands Commission

in order to realign the existing navigation channel in San Diego Bay; and issuance of permits from the U.S. Army Corps of Engineers, the Department, and the Regional Water Quality Control Board.

The Department and the Service previously commented on the Notice of Preparation (NOP, SCH# 2002081116) for the Bayfront Village Project that was restricted to the 128-acre area currently included in the Sweetwater District. The Department commented in a letter dated September 24, 2002, and the Service provided a similar letter, dated September 19, 2002. The Wildlife Agencies also commented on the NOP for the Proposed Project in a letter dated September 12, 2005. The Service also provided a letter to the Port and City, dated April 22, 2004, that emphasized the importance of the habitats in the south end of San Diego Bay and the need for the Proposed Project to adequately protect the south bay's locally, regionally, and globally important natural resources. We appreciate that, relative to the project previously proposed in 2002, it appears that the currently Proposed Project would result in considerably adverse biological impacts within the Sweetwater District. However, considering the overall intensity of the larger project proposal, we retain many of the concerns that we raised in our previous letters. All of our comments in past letters also apply to the Proposed Project, as described in the DEIR dated September 2006.

A summary of the Wildlife Agencies' primary comments and concerns about the DEIR follows. We are disappointed that the DEIR provides no or inadequate analysis of, and mitigation for, many of the biological impacts about which we previously provided (in letters and electronic mail to, and meetings with, the Port) substantive comments and recommendations, and requested the DEIR thoroughly address. We request a meeting with the Port, the City, and stakeholders to further discuss the Proposed Project and our comments, after we have had an opportunity to review the responses to our comments, and prior to the Port's decision as to whether to revise and recirculate the DEIR (comment 2 below), or well in advance of the Board of Port Commissioners' consideration of the DEIR for certification.

1. The Wildlife Agencies do not concur with the DEIR that significant impacts to biological resources and wetlands have been minimized to a level less than significant (Section 4.8.7). The DEIR does not adequately evaluate all project impacts to biological resources, even at a programmatic level, and the full range of mitigation measures needed to reduce potential impacts to a level less than significant are either not addressed or, in some instances where measures are addressed, future implementation of the measures cannot be assured. We strongly urge the Port to (a) revise the DEIR to adequately identify and analyze the Proposed Project's biological impacts addressed in this comment letter, and to provide appropriate mitigation for the impacts, and (b) to recirculate the revised DEIR for public review and comment.
2. The Wildlife Agencies support a land exchange that eliminates or minimizes the possibility of residential development and its associated direct and indirect impacts to on-site and adjacent sensitive biological resources. We therefore recommend that the Proposed Project be modified to incorporate certain components of both the Modified Land Exchange and the Harbor Park Alternative, as specified in our detailed comments in the Enclosure. We do not support the inclusion of a 2,000 to 5,000 seat amphitheater on

parcel HP-1, which is proposed as part of the Harbor Park alternative, because it would increase disturbance to wildlife that roost and nest within and/or in the vicinity of the project site.

3. Based on information available regarding the Proposed Project, we are especially concerned about its potential direct and indirect impacts to: (a) intertidal wetlands (*e.g.*, Sweetwater Marsh, F&G Street Marsh, J Street Marsh, and the mudflats located north of the Harbor District) and their associated federally and state-listed plant and wildlife species, including the light-footed clapper rail (*Rallus longirostris levipes*) and Belding's savannah sparrow (*Passerculus sandwichensis beldingi*); (b) subtidal bay habitats and their associated fisheries resources, eelgrass beds, and migratory bird foraging and rafting areas; (c) migratory birds, including those birds identified by the Service as Birds of Conservation Concern, that rely on the south San Diego Bay for foraging and resting areas during migration along the Pacific Flyway; (d) colonial nesting seabirds such as the federally and state-listed California least tern (*Sterna antillarum browni*) and federally listed western snowy plover (*Charadrius alexandrinus nivosus*), shorebirds, and waterfowl that nest in proximity to the project site; and (e) species covered by the City's Multiple Species Conservation Program (MSCP) Subarea Plan.
4. The level of detail provided in the DEIR for specific project design, potential project impacts, and appropriate mitigation measures for the Phase I projects is not sufficient to allow adequate project-specific review under CEQA. Therefore, the analyses provided throughout the DEIR should be considered programmatic.
5. Portions of the Proposed Project and lands adjacent thereto are subject to the standards laid out in the City MSCP Subarea Plan. Since the Port does not have a habitat conservation plan/NCCP to guide its development projects, the entire project should meet or exceed the mitigation ratios, guidelines, and standards required by the City's MSCP Subarea Plan to maintain consistency with its application to the on-site and adjacent areas within Plan.
6. The DEIR does not identify the Proposed Project's many indirect impacts to adjacent sensitive habitats and sensitive species located therein, nor does it propose adequate measures to mitigate such impacts. Such indirect impacts, otherwise known as "edge effects," include increased predation, increased disturbances to wildlife, bird strikes and disorientation, shading of adjacent habitat, human encroachment, increased noise, increased illumination, and detrimental changes to hydrology and water quality. A fenced minimum 100-foot wide "no-touch" habitat buffer should be provided around all sensitive habitats, including mitigation habitats, to minimize indirect impacts. Degradation of habitats due to unavoidable indirect impacts should be mitigated, in part, through creation or restoration of similar habitats.

The Wildlife Agencies offer the preceding general comments, and our general and specific recommendations and comments on the adequacy of DEIR in the accompanying Enclosure, to assist the Port and project applicant(s) in ensuring that the Proposed Project's biological impacts are avoided and/or minimized to below a level of significant.

We appreciate the opportunity to comment on the DEIR. For questions regarding this letter, contact: Carolyn Lieberman or Amber Himes at (760) 431-9440 of the Service; and Libby Lucas at (858) 467-4230 or Marilyn Fluharty at (858) 467-4231 of the Department.

Sincerely,

//s//Kathleen Brubaker, for
Therese O'Rourke
Assistant Field Supervisor
U.S. Fish and Wildlife Service

//s//
Michael J. Mulligan
Deputy Regional Manager
California Department of Fish and Game

Enclosure

cc: Marisa Lundstedt, City of Chula Vista
Robert Smith, U.S. Army Corps of Engineers
Chris Means, California Regional Water Quality Control Board
Deborah Lee, California Coastal Commission
Robert Hoffman, National Marine Fisheries Service
Joanna Grebel, California Energy Commission
Andy Yuen, Project Leader, San Diego NWR Complex
State Clearinghouse

**WILDLIFE AGENCIES' COMMENTS ON THE DRAFT EIR FOR
THE CHULA VISTA BAYFRONT MASTER PLAN AND
PORT MASTER PLAN AMENDMENT**

The Wildlife Agencies offer the following general and specific recommendations and comments on the adequacy of Draft Environmental Impact Report (DEIR) to assist the San Diego Unified Port District (Port) and project applicant(s) in ensuring project impacts to biological resources are avoided and/or minimized to below a level of significant. Our specific comments are based on the preferred alternative. If the alternative approved for implementation deviates from the preferred alternative presented in the DEIR, we may have additional comments. We request a meeting with the Port, the City, and stakeholders to further discuss the Proposed Project and our comments, after we have had an opportunity to review the responses to our comments, and prior to the Port's decision as to whether to revise and recirculate the DEIR (comment 2 below), or well in advance of the Board of Port Commissioners' and consideration of the DEIR for certification.

The Proposed Land Exchange

1. The Wildlife Agencies support a land exchange that eliminates or minimizes the possibility of includes removal of residential development and its associated direct and indirect impacts to on-site and adjacent sensitive biological resources. We therefore recommend that the Proposed Project implement an alternative that incorporates the following components of both the Modified Land Exchange and the Harbor Park Alternative:
 - a. the components of the Modified Land Exchange that avoid placing residential development and its associated impacts adjacent to the J Street Marsh and the Sweetwater Marsh and South San Diego Bay Units of the San Diego NWR;
 - b. the components of the Harbor Park Alternative that relocate (i) the Signature Park from the Sweetwater District (S-2) to the Harbor District (H-3), and (ii) a conference hotel from the Harbor District to the Sweetwater District (S-2), to minimize uncontrolled human and animal encroachment into the Sweetwater Marsh Unit and adjacent mudflats;
 - c. move the Resort Conference Center (RCC) farther away from San Diego Bay (from H-3 to H-23) to avoid impacts to the F&G Street Marsh and the Bay due to shading, to minimize its potential for losses of listed species from avian predators perching on tall structures, and to reduce the potential for bird strikes; and,
 - d. reduce the building heights in the areas of the Sweetwater District (S-1) that are adjacent to the Sweetwater Marsh Unit to avoid impacts related to shading and predator perching.

We do not however support the inclusion of a 2,000 to 5,000 seat amphitheater on parcel HP-1, which is proposed as part of the Harbor Park alternative, because it would increase disturbance to wildlife that roost and nest within and/or in the vicinity of the project site.

Adequacy of Environmental Review under CEQA

2. Throughout the DEIR, there are multiple instances of inadequate identification and analysis (even at a programmatic level) of biological impacts, and inadequate, or inappropriate deferral of, mitigation. Subsequently, the impact analyses and proposed mitigation is insufficiently detailed to assess the biological implications of the Proposed Project. CEQA requires that all anticipated impacts and proposed mitigation be clearly identified in a DEIR and not deferred for future study. This is supported by *Sundstrom v. County of Mendocino*, 202 Cal.App3d 296, which states “the requirement that the applicant adopt mitigation measures recommended in a future study is in direct conflict with the guidelines implementing CEQA....By deferring environmental assessment to a future date, the conditions run counter to that policy of CEQA which requires environmental review at the earliest feasible stage in the planning process.”

The lack of inadequate analysis and mitigation in the DEIR undermines the basic purposes of CEQA. These purposes include, but are not limited to the following: (a) informing governmental decision-makers and the public about the potential, significant environmental effects of proposed activities; (b) identifying the ways that environmental damage can be avoided or significantly reduced; and (c) preventing significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible [CEQA Guidelines, section 15002(a)].

Based on the foregoing and ensuing comments and recommendations, we strongly urge the Port to (a) revise the DEIR to adequately identify and analyze the Proposed Project’s biological impacts addressed in this comment letter, and to provide appropriate mitigation for the impacts, and (b) pursuant to Section 15088.5 of the CEQA Guidelines, recirculate the revised DEIR for public review prior to its consideration for certification.

This would be particularly appropriate if, for example, there is one or more feasible project alternative(s), or there are mitigation measures, considerably different from those previously analyzed that would clearly lessen the environmental impacts of the Proposed Project, but the Port declines to adopt them [CEQA Guidelines, Section 15088.5(a)(3)]. Our recommendation derives from the lack of basic impact analyses in the DEIR, analyses needed to conform to CEQA. The revisions to the DEIR to be recirculated should be fully responsive to our comments by providing full disclosure of the potential project-related biological impacts, and additional measures necessary to mitigate the impacts to a level less than significant.

3. The DEIR states, “Additional environmental review ...required for Phases II and III projects will be determined pursuant to State CEQA Guidelines Section 15168.” However, the project description, impact analysis, and proposed mitigation measures in the DEIR for Phase I projects provide insufficient information to constitute a project-level review under CEQA. Again, the DEIR does not satisfy the basic purposes of CEQA because it lacks the level of detail (particularly with respect to project descriptions, impact analysis, and proposed mitigation) needed for thorough evaluation and review of potential Project-related impacts. For these reasons, as discussed further in subsequent comments herein, the entire DEIR should be considered a programmatic DEIR, and all project components, including those in Phase I, should be subject to subsequent public review and comment.
4. The existing conditions discussion of Land/Water Use Compatibility (Section 4.1 of the DEIR) is generally limited to land uses within the Proposed Project footprint, though the discussion should also address the Proposed Project’s compatibility with adjacent uses. The document should describe the land uses and planning policies established for the San Diego Bay National Wildlife Refuge (NWR), which abut the Proposed Project site to the north, south, and west. For this purpose, Section 4.1.1.1 of the recirculated/final EIR should include a discussion of the recently approved Comprehensive Conservation Plan for the NWR. In addition, the recirculated/final EIR should accurately analyze the potentially significant land use compatibility impacts to the NWR that could result from the implementation of various components of the Proposed Project.

Specific Comments

The following comments address specific sections in the DEIR where project information is insufficient for the level of review necessary under CEQA. The recirculated/final EIR should provide a level of detail necessary for adequate analysis and disclosure of biological impacts and determination of appropriate mitigation.

5. Section 4.1.1.1 should be revised to address the NWR, and Figure 4.1-5 should be revised to include not only the current boundary of the Sweetwater Marsh Unit of the NWR, but also the current boundary of the South San Diego Bay Unit of the NWR to the south and west. Suggested language for Section 4.1.1.1 (San Diego Bay NWR Comprehensive Conservation Plan) is provided below.

g. San Diego Bay NWR Comprehensive Conservation Plan

The U.S. Fish and Wildlife Service recently completed a Comprehensive Conservation Plan (CCP) for the San Diego Bay NWR (USFWS 2006). The CCP, which provides a 15-year strategy for achieving refuge purposes and contributing towards the mission of the National Wildlife Refuge System, describes why this Refuge was established and outlines the Refuge purposes, vision, goals, and objectives.

The San Diego Bay NWR includes the 316-acre Sweetwater Marsh Unit to the north of the Proposed Project, and the South San Diego Bay Unit, which includes 2,300 acres of land and water to the south and west of the Proposed Project. The Refuge was established to protect, manage, and restore habitats for federally listed species and migratory birds, and to maintain and enhance the biological diversity of native plants and animals on the Refuge. The Refuge includes most of what remains of San Diego Bay's historic coastal salt marsh and intertidal mudflat habitat. Refuge goals include: protecting, managing, enhancing, and restoring the coastal wetland and upland habitats on the Refuge to benefit native fish, wildlife, and plant species; protecting state and federally listed species and migratory birds supported on the Refuge; protecting foraging and nesting habitat for colonial nesting seabirds in the South San Diego Bay Unit; and providing opportunities for public uses that are compatible with Refuge purposes.

6. The project description in the recirculated/final EIR should provide more than only limited acknowledgement that the southern end of the Proposed Project footprint abuts a segment of the South San Diego Bay Unit NWR. A portion of parcel OP-2A directly borders 3000 feet of the NWR. The label "South San Diego Bay Unit of the San Diego Bay National Wildlife Refuge" should be used to identify the NWR on Figures 3-2, 3-3, 3-4, 3-5, 3-7, and 4.8-1. In addition, Section 3.1 and associated graphics should be revised to distinguish between the Sweetwater Marsh Unit and the South San Diego Bay Unit of the NWR. The last sentence in the second paragraph of Section 3.1 should read: "Palomar Street and the South San Diego Bay Unit of the San Diego Bay NWR, which includes the existing salt evaporation ponds, at the southern end of San Diego Bay border the planning area to the south and west."
7. The analysis of compatibility of the Proposed Project with the NWR on page 4.1-77 of the DEIR is inadequate. The significant impacts identified on page 4.1-68 of the DEIR related to public access, lighting, and noise (which should also address fireworks, outdoor concerts, and in-water uses) should also be clearly presented under Criterion 3 in Section 4.1.3 and should be expanded to address both the Sweetwater Marsh and South San Diego Bay Units of the NWR. Factors that should be considered in determining the Proposed Project's compatibility with the NWR include impacts to NWR habitats and wildlife from shading, storm water discharge, changes in topography that could affect current hydrological conditions on the NWR, increased noise levels and increased night lighting and sky glow, increases in predation, unauthorized access onto sensitive habitats, and other factors addressed throughout this comment letter. Corresponding enforceable mitigation measures that would reduce impacts to a level less than significant should also be added to Section 4.1.4. Finally, the Wildlife Agencies do not concur with the conclusion of the DEIR that "strategic" fencing would reduce compatibility impacts to a level less than significant, in part because no amount of fencing will minimize most the negative effects of most of the factors mentioned above. Nevertheless, the entire boundary of the Proposed

Project should have fencing or other suitable barriers that would prevent unauthorized access by humans and pets into sensitive coastal habitats.

8. The Wildlife Agencies consider the DEIR misleading in its classification of wetland resources under different regulatory jurisdictions. For example, the DEIR indicates that seasonal ponds in the Otay District and mulefat scrub in the Sweetwater District are exempt from the U.S. Army Corps of Engineers' (Corps) jurisdiction due to isolation. And, Figure 4.8-6, *Overview of USACE Jurisdictional Resources*, labels these wetlands as "exempt from jurisdiction." However, the Corps has not made this conclusion. Until the Corps designates which areas within the Project footprint are subject to or exempt from their regulation, the EIR should refrain from making such designations. The Wildlife Agencies believe that these seasonal ponds may be subject to the Corps jurisdiction based on information provided in the DEIR. Specifically, the DEIR indicates that the Soil Survey for San Diego County maps tidal flat soils along the eastern edge of the Otay District. Furthermore, the historic footprint (*i.e.*, 1859) of San Diego Bay also occurred within the Otay District (Map 3-1 in San Diego Bay Integrated Natural Resource Management Plan, Navy and Port 2000). We recommend that the recirculated/final EIR reflect wetland delineations that have been verified by the appropriate agencies so that the public can review all impacts to wetlands and waters, and their associated mitigation.
9. Based on the description of the uses to be permitted within the eastern 200 feet of the proposed 400-foot wide "ecological buffer," the Wildlife Agencies request that the nomenclature used for the buffer be changed to avoid any misunderstanding on the part of the public or the decision makers. As described in the DEIR, the 400-foot-wide area does not meet the intent of an "ecological buffer." Specifically, the human activities to be allowed within the eastern 200 feet are not compatible with the purposes of an ecological buffer. A true ecological buffer represents an area where no human activity is allowed except for conservation and restoration purposes. In the case of the Proposed Project, the only ecological buffer is within the 200-foot no touch/mitigation area, with the exception of the proposed trail outlooks. The 100-foot limited use buffer and 100-foot transitional use zone should not be considered ecological buffers because they allow uses that are not compatible with conservation. Therefore, the recirculated/final EIR should rename this 200-foot area to more accurately describe the types of low intensity park uses that are proposed within it. Note that we are not requesting a wider true ecological buffer; we are simply a requesting clarification of the intent and uses that would occur within the 400-foot-wide area that abuts the Sweetwater Marsh Unit.
10. The DEIR does not identify the numbers, heights, or locations of the buildings proposed on each parcel. This lacking information is particularly important for parcels S-1, S-4, H-3, H-13, H-14, and O-1A and O-1B, which are adjacent to preserved wetlands within the NWR or other wetland areas (*e.g.*, Sweetwater Marsh, F&G Street Marsh, and J Street Marsh). Depending on their design and location, the buildings on these parcels could provide raptorial perches that overlook wildlife habitat supporting several sensitive avian species

that are prey for raptors, result in bird strikes, and shade adjacent wildlife habitats. Yet, the DEIR does not include adequate mitigation measures to avoid and minimize biological impacts associated with the buildings.

11. The DEIR does not provide adequate information to enable the reviewer to understand how the existing elevations within the Proposed Project site would be changed or how existing drainage patterns would be altered to accommodate future development. The full project-level impact analysis of Phase I in the recirculated/final EIR should include a detailed grading plan for each of the Phase I development areas. Without this information, it is infeasible to properly assess the Phase I potential effects to adjacent coastal resources.
12. The overall design of the Proposed Project should minimize biological impacts in all three project Phases. Project components of Phase I should not foreclose the potential to avoid or minimize the biological impacts from Phases II and III. For example, to a considerable degree, the design (e.g., height) and location of the buildings (i.e., aspects of the buildings that affect biological resources such as the Pacific Flyway) in Phase I will dictate the same for buildings in Phases II and III. Trade-offs among the three Phases in the design and location of buildings warrant considering the entire project as a whole to avoid or minimize its biological impacts.
13. The project description for Parcel S-2 Signature Park (Phase I) lacks the detail necessary for a full analysis of its impacts. The recirculated/final EIR should include: an as-built 11"x17" rendering of the of the Proposed Project design; a full description, with all permitted uses, anticipated activities, hours of operation, structures, lighting fixtures, and other accessory features fully described; and, a detailed analysis of the impacts associated with each of these proposed elements.
14. The project description for Parcel S-2A Open Space (Phase I) describes the parcel as an existing street and as a project mitigation site. The DEIR provides no description of the condition of the vegetation on site, nor details regarding the possible use of the site for mitigation. If this parcel is to be included in Phase I, then the proposed use of the parcel should be fully described. Decisions regarding use of the site for mitigation and whether or not the existing street segment would be demolished are necessary in order to complete adequate project specific CEQA review. The EIR should address the following: whether the site, if used for mitigation, would become part of the F & G Street Marsh; how might the restored habitat be affected by implementation of the Proposed Project; and what would be the value of the site in terms of conservation.
15. The project description in the recirculated/final EIR should acknowledge that the southern end of the Proposed Project is located in the vicinity of the City of San Diego's MSCP preserve, the Multiple Habitat Planning Area (MHPA). Figure 4.8-1 should be revised to include the boundaries of the MHPA.

16. Figure 4.8-1 should be revised to identify the mudflats located west of the Sweetwater Marsh and north of the Harbor District. The recirculated/final EIR should discuss the importance of this mudflat as a biological resource that provides essential foraging and resting areas for birds migrating along the Pacific Flyway.
17. The recirculated/final EIR should provide the details and purpose of the habitat buffer (*e.g.*, buffer width, vegetative cover, permitted and prohibited uses within) between the J Street Channel and development in the Harbor District or around the F&G Street Marsh.
18. The description of the design of the new F&G Street Marsh Bridge is not of sufficient detail to allow for adequate project-level analysis of potential impacts to wetlands and biological resources in the adjacent NWR. The description lacks important details such as the overall design (*e.g.*, length of the bridge), the type of crossing (*e.g.*, box culvert, open span), and duration of its construction.
19. If the recirculated/final EIR retains (we recommend that it not – comment 31b) the proposed pedestrian bridge at Lagoon Drive between the seasonal wetland (SP-2) and F&G Street Marsh, it should provide an evaluation of how the bridge could affect the restoration potential of these two marshes (*e.g.*, any restoration limitations due to the length and height of the bridge).
20. The recirculated/final EIR should provide the design specifications (*e.g.*, box culvert or open expanse, length, height) of the bridge for the new E Street as it crosses the primary tidal channel connecting the F&G Street Marsh to San Diego Bay (see comment 31d).
21. The design of the Resort Conference Center (RCC; Parcel H-3) is not described sufficiently to fully analyze potential impacts. Important design features that need to be discussed in the project description include the proposed building layout on the site with all building heights indicated, the building surface design (*e.g.*, amount and height of glass), building and landscape lighting proposals, and the major components of the landscape design (*e.g.*, tree placement and potential species mix).
22. The project description for parcel HP-23A states, “Because no specific use is proposed, uses that would generate traffic would be subject to separate environmental review pursuant to CEQA Guidelines 15168.” This is a misleading statement in that, regardless of the amount of traffic they would generate, all of the programmatic level components (*i.e.*, all project components of Phase II or III, not just parcel HP-23A) of the Proposed Project would likely be subject to subsequent environmental project-level analysis pursuant to CEQA in order to fully evaluate all of their potential environmental effects. This project-level analysis should occur only after site plans and design for Phases II and III are prepared.

Mitigation for Direct Losses of Habitat and Species

23. Throughout the project description, there is mention of small areas that would be designated as “Wetlands and Mitigation Bank.” However, there is no description of what this designation means. It is unclear whether these areas are intended solely for project-related mitigation obligations, or to provide the latter plus mitigation “credits” using excess (*i.e.*, beyond the project-related mitigation obligations) mitigation for other projects. If the intent is the former, the term “Mitigation Bank” should not be used. If the intent is the latter, the project applicant needs to go through the appropriate channels to obtain authorization to sell mitigation credits. In this case, the project applicant should discuss this with the Wildlife Agencies as soon as possible, though it may be that the Wildlife Agencies will accept these mitigation areas as mitigation only for the indirect impacts of the Proposed Project.
24. The DEIR identifies the mitigation for the entire Proposed Project. While this addresses the cumulative impacts of the Proposed Project, recirculated/final EIR should also provide the impacts and associated mitigation broken down per parcel. Assuming that the owners of each individual parcel would be responsible for mitigating the impacts to that parcel, it will be necessary to have a table and/or text description of who would be responsible for what impacts and mitigation per.
25. The recirculated/final EIR should clarify why Table 4.8-5 distinguishes between total acreage and total credits, and which number is intended to account for the mitigation obligations of the Proposed Project
26. Since the clapper rail is not only a federal and state endangered species, but also a State Fully Protected Species, only the Service can authorize its take.¹ Therefore, Mitigation Measure 4.8-4, which addresses direct impacts to light-footed clapper rail (*Rallus longirostris levipes*, clapper rail), should be modified to assure that impacts to clapper rail are avoided year-round because this species is a year-round resident. As the species is secretive and reacts to disturbances by hiding in the vegetation, it is susceptible to being crushed by heavy equipment. Therefore, any work occurring within potential clapper rail habitat may affect this listed species and requires consultation with the Service pursuant to the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The DEIR should acknowledge that any take must be authorized by the Service and should be expanded to indicate how implementation of the proposed biological monitoring will be assured. Mitigation measure 4.8-7 should be revised to provide assurance that there will be no take of clapper rail.

¹ Pursuant to Section 3511 of the California Fish and Game Code, the light-footed clapper rail is also designated as a State Fully Protected species. This designation prohibits take or possession of this species at any time (*i.e.*, no take authorizations from the State are available). This also applies to the bird’s eggs.

27. The statement on page 4.8-37 indicating that gnatcatcher have not been reported in the project vicinity is incorrect. The statement should be revised to state that gnatcatcher have been observed in upland habitat on the Sweetwater Marsh NWR. The impact and mitigation section should also be revised to recognize the project's effect on gnatcatchers. Any potential take, either direct or indirect, of gnatcatchers requires consultation with the Service pursuant to the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).
28. Mitigation Measure 4.8-9 B and Mitigation Measure 4.8-10 B should be revised to require that all updated assessments of potential impacts from the Proposed Project and proposed mitigation be submitted to the Wildlife Agencies for review and approval, in addition to being submitted to the Port and/or City.
29. Inappropriately, the DEIR does not require mitigation for losses of raptor foraging habitat (e.g., non-native grassland). Mitigation for project-related losses of raptor foraging habitat should occur at a ratio of 1:1 away from the project site (e.g., east of Interstate 5 or south of the South San Diego Bay Unit) since concentrating raptor habitat, and thus raptors, into the remaining habitat within and adjacent to the project site could compromise the survivorship of sensitive ground nesting birds raptors prey upon.
30. Except for mitigation for impacts to raptor foraging habitat, the Wildlife Agencies recommend that all mitigation for project-related direct and indirect impacts to sensitive habitats occur within or adjacent to the project area.
31. The following comments are specific to the *Mitigation Opportunities for the Chula Vista Bayfront Project in the City of Chula Vista, California (Recon 2006, Mitigation Plan, and Appendix AA)*.
 - a. To offset loss of wetlands and uplands, the DEIR proposes mitigation within the approximate 200-foot "no-touch" habitat buffer along the western boundaries of the Sweetwater (Parcel SP-1) and Otay (Parcel OP-2A) Districts. The Mitigation Plan (Appendix AA) states, "A carefully designed buffer zone...will lessen the impacts associated with development and create an interface that gradually transitions from undeveloped native landscape to developed areas." The Wildlife Agencies consider the restored habitat within the no-touch buffer zone as mitigation only for indirect impacts to the adjacent sensitive biological resources (e.g., Sweetwater Marsh and associated mudflats and J Street Marsh), not for direct impacts (i.e., habitat losses). Created or restored habitat that is intended as mitigation for loss of sensitive habitat should have a minimum 100-foot no-touch habitat buffer between it and adjacent development to minimize indirect impacts from development to the mitigation site. Therefore, the recirculated/final EIR should identify locations other than the no-touch buffer zone to create or restore habitat as mitigation for habitat losses. The Wildlife Agencies do, however,

concur that the habitat restoration within the buffer should be subject to a monitoring and maintenance program.

- b. Rather than replace Lagoon Drive [between the seasonal wetland (SP-2) and F&G Street Marsh] with a pedestrian bridge, the Wildlife Agencies recommend that Lagoon Drive be permanently removed to maximize restoration opportunities within and adjacent to the F&G Street Marsh and the seasonal wetland (SP-2). This would partially meet mitigation obligations for loss of habitat, and would minimize human disturbances to the wildlife that may reside within them.
- c. Consistent with our July 20, 2006, letter to the City of Chula Vista concerning the Mapping Conflict within the F&G Street Marsh area of the Chula Vista MSCP Subarea Plan, (FWS-SDG-882.7) we request that Marina Parkway proposed to also be demolished and restored as part of the buffer between the project and F&G Street Marsh, and that the restored area be remapped to again be within the City's MSCP Preserve. This would partially meet mitigation obligations for loss of habitat, and would minimize human disturbances to the wildlife that may reside within F&G Street Marsh.
- d. The Wildlife Agencies recommend an open expanse for the bridge of the proposed E Street crossing the primary tidal channel between the F&G Street Marsh and San Diego Bay. In addition, the length and height of the bridge should be maximized. This would ensure that the restoration potential within F&G Street Marsh is not limited by insufficient tidal exchange and that adequate high-tide refugia are provided to accommodate wildlife moving between the Bay and the marsh.
- e. Any habitat mitigation proposed within the F&G Street Marsh must be coordinated with, and approved by, the Refuge Manager in accordance with the existing Memorandum of Understanding for the Mitigation Leasehold Overlays on the Sweetwater Marsh Unit. Habitat mitigation and/or changes to the existing tidal channel that connects the F&G Street Marsh to San Diego Bay should also be coordinated with the Refuge Manager to ensure that no adverse effects to NWR resources could result from such actions.

Indirect Impacts and Habitat Degradation

32. The DEIR should acknowledge that indirect impacts associated with development adjacent to sensitive habitats would result in a degradation of habitat. The Proposed Project would introduce new and exacerbate existing anthropogenic negative indirect effects to adjacent biological resources; these effects include increased predation on wildlife, increased disturbances to wildlife, bird strikes and disorientation, shading of adjacent habitat, human encroachment, increased noise, increased illumination, and

detrimental changes to hydrology and water quality. Many of these indirect impacts, also referred to as “edge effects,” result in a degradation of habitat. In addition, the DEIR should analyze the adverse effects of human activity within 100 feet of the adjacent Sweetwater Marsh Unit, and does it identify potential impacts related to unencumbered access from the Signature Park into the adjacent wetlands (*i.e.*, a continuous fence to protect coastal resources from human and domestic animal intrusion).

A report published by the Department in 1973 on the natural resources of San Diego Bay states, “direct and indirect impacts upon the Sweetwater marsh complex by any further development will seriously threaten the capacity of the area to support resident and migrant wildlife populations” (Department 1973; page 87). It is primarily the potential indirect impacts associated with development that are of such concern. In 1979, the Department wrote a memo to the San Diego Coast Regional Commission on the Chula Vista Land Use Plan. The memo favors the maintenance of the agricultural operation that existed at that time adjacent to the coastal salt marsh, stating, “It would seem to be more compatible with the marsh than the proposed residential and visitor serving development. The agricultural operation provides an effective buffer between the marsh habitat and urban (or industrial) encroachment” (Department 1979).

The Wildlife Agencies recognize the efforts made to reduce the intensity of the development proposed adjacent to the Sweetwater Marsh. However, despite these efforts, we concur with the sentiments reflected in the preceding paragraph because the overall intensity of development within the Proposed Project area could still result in significant direct and indirect impacts to sensitive habitats and the species they support. The wildlife habitats that occur within or in close proximity to the Proposed Project area (*e.g.*, Sweetwater Marsh and South San Diego Bay Units of the NWR, the F&G Street Marsh, the J Street Marsh, the shoreline and mudflats of San Diego Bay, and the Chula Vista Nature Reserve) are important to the survival of numerous resident and migratory species. As such, future development must retain the biological functions and values of these sensitive habitats. The recirculated/final EIR should reflect project modifications and require habitat restoration and management elements that would mitigate for the direct, indirect, and cumulative impacts from the project. We provide below a more detailed discussion of specific indirect impacts and possible mitigation measures to reduce impacts that should be identified and addressed in the recirculated/final EIR.

Mitigation Measures for All Indirect Impacts

33. Mitigation for indirect impacts that result in permanent degradation of sensitive habitats within or adjacent to the project site should include enhancement or restoration of directly and indirectly avoided in-kind habitat elsewhere within the Proposed Project area at a minimum of a 1:1 ratio. For example, the project description indicates that Parcel HP-5, consisting of wetlands within an existing narrow “L” shaped drainage channel, would remain, and would contain a 50-foot-wide setback on either side to protect against

encroachment into the wetlands. The Wildlife Agencies generally recommend that a minimum of a 100-foot wide buffer be provided between wetlands and development. Although the wetland on Parcel HP-5 is considered open space and un-impacted in the DEIR, this wetland would experience a number of indirect impacts (*e.g.*, shading, night lighting, urban runoff). The recirculated/final EIR should fully address all such impacts to wetlands and other sensitive habitats and should provide appropriate mitigation to reduce the impacts to a level less than significant. Similarly, mitigation for degradation of the wetlands located in the Sweetwater District (SP-2 and SP-1) and the F&G Street Marsh and its tidal tributary should include enhancement of those wetlands and the restoration of similar habitats at a minimum of a 1:1 ratio.

Buffers to Sensitive Habitat and Wildlife

34. In our September 12, 2005, letter, we requested that adequate habitat buffers (*e.g.*, no touch buffers) surround all sensitive biological areas to minimize indirect impacts from adjacent development. These buffers should prohibit human and domestic animal access, consist of only appropriate locally native species, and be free of all project infrastructure (*e.g.*, erosion control devices, fences, brush management, trails, and picnic tables). To prevent human and mammalian access into buffer areas, fencing or other suitable barrier systems should be installed at the outside edge of the habitat buffer prior to the initiation of project construction. Additionally, screening or berms should be incorporated around or within the habitat buffers to protect wetland birds from lighting and noise related-disturbances from beyond the buffer. In concert with the habitat buffer, land uses adjacent to the buffer should include low intensity public use (*e.g.*, walking, biking, and passive recreation) to minimize indirect impacts (*e.g.*, lighting, shading, and noise) associated with high intensity development. We recommend that landscaping adjacent to buffers utilize only native species to conserve water and avoid or minimize pollutant (*e.g.*, fertilizers, pesticides) discharge into wetlands.

Specific Comments

35. In addition to the habitat buffers proposed in the DEIR, a no-touch minimum 100-foot wide habitat buffer should be designed around any wetland in or adjacent to the project site. For instance, buffers should surround the wetlands in SP-1, SP-2, HP-5 (L Marsh), F&G Street Marsh and its associated tidal inlet, J Street Marsh, Telegraph Creek (OP-2A), and the South San Diego Bay Unit of the NWR. These buffers should be incorporated into Parcels SP-1, S-2, HP-11, S-2A, H-13, H-14, HP-6, HP-7, OP-2A, and O-1A. A 100-foot buffer should also be placed along the entire shoreline to prevent human and domestic animal access to the mudflats and salt marsh. As the project is proposed, only parcel H-1A is designed to have a 100-foot buffer along its shoreline.
36. The DEIR inappropriately identifies the 400-foot-wide buffer (Parcel SP-1) between development (S-1, SP-3, and S-2) and Sweetwater Marsh Unit as an "ecological buffer."

Comment 9 explains why this term inaccurately describes the proposed buffer. As discussed in our September 12, 2005, letter, the 200-foot no-touch buffer zone within the Sweetwater District (Parcel SP-1) should include no human activities and should be protected with a permanent fence. As shown in Figure 4.8-24, there is an outlook, fence, and berm proposed within this no-touch buffer. The outlook, fence, and berm all need to be relocated to the 100-foot limited use zone. A permanent fence should be placed along the northern and westerly edge of the entire length of the 200-foot buffer to prevent human and animal encroachment into the habitat buffer and adjacent sensitive habitats. As recommended in our September 12, 2005, letter and discussed at several meetings with Port and City representatives, mitigation for significant direct and indirect impacts to sensitive wetland areas as a result of increased human and domestic animal activity in and around Sweetwater Marsh and adjacent intertidal areas should be provided through installation of appropriate fencing. We continue to recommend a minimum six-foot-high black vinyl chain link fence along the development side of the habitat buffer boundary. Any fencing between development and the NWR should be coordinated with the Refuge Manager. Native cacti, as proposed on page 3-28 of the DEIR, would not adequately mitigate potential impacts related to unauthorized access into sensitive areas from the adjacent park site.

The Mitigation Plan (Appendix AA) indicates that the Transitional Use Zone in SP-1 may incorporate a more landscaped theme. The Wildlife Agencies recommend that landscaping use only native species to conserve water and avoid and minimize pollutant (*e.g.*, fertilizers, pesticides) discharge into wetlands. Landscaping should not include trees that may provide nesting for pest species (*e.g.*, rats) or predator perches with a line-of-sight into the NWR or adjacent mudflats.

The Wildlife Agencies recommend that impacts to the woolly sea-blite population located within SP-1, which is considered a buffer, be avoided.

37. A buffer of at least 200 feet should be provided between wetland resources within the Sweetwater Marsh Unit and the edge of Parcel S.
38. A no-touch habitat buffer should be included between the office buildings proposed on Parcel S-4 and the wetlands to the north, which are located on the NWR.
39. The mudflat shoreline extending north of the Harbor District is used by migratory birds for foraging and resting. Human and animal encroachment into the mudflats would disturb the birds, causing them to move and expend energy otherwise necessary for completion of their migration. The DEIR proposes a buffer and signage along the entire shoreline of the project in the Sweetwater District to help protect the mudflats from human impacts. We recommend that suitable physical barriers (*i.e.*, chain link fence) be provided along the buffer edge farthest from the mudflat shoreline to minimize encroachment from humans and domestic animals into the mudflats.

40. The Wildlife Agencies recommend that the buffer and shoreline north of the J Street Channel (HP-6 and HP-7) be naturalized. For instance, the rip rap could be removed to provide a more natural shoreline, with native upland plants installed between the channel and the proposed promenade. As already indicated, the habitat buffer north of the J Street Channel should be at least 100 feet wide. To maximize the width of the habitat buffer, we recommend that the width of the promenade be reduced from 12 feet to 8 feet.
41. Although parcel OP-2A is designated as an ecological buffer, the project description refers to a pedestrian pathway and a public boardwalk/observation area that could encroach into the buffer. The recirculated/final EIR should identify where encroachment occurs and fully analyze all associated impacts to the ecological buffer within parcel OP-2A, as well as to the adjacent segment of the Refuge, J Street Marsh, and the wildlife these areas support.
42. The DEIR provides no discussion in the project description about parcel O-4 or the buffer area shown immediately to the west of this parcel on Figure 1-1. The recirculated/final EIR should indicate what, if any, uses are proposed between the relocated power plant and the South San Diego Bay Unit of the NWR. The Wildlife Agencies recommend that a 100-foot-wide ecological buffer be provided to minimize or avoid impacts to the adjacent wetland area.

Increased predation on wildlife

43. The DEIR does not adequately address the inevitable project-related increase in levels of predation on sensitive species located on the NWR and other sensitive habitats. The recirculated/final EIR should include an adequate analysis of the impacts related to increased predation as a result of: (1) increases in nocturnal lighting; (2) displacement of foraging raptors and mammalian predators from the project site to adjacent wildlife habitats; (3) increases in the numbers of generalist predators (*e.g.*, rats, ravens, crows, gulls) attracted to the area due to increases in trash; and (4) the introduction of additional cats and dogs as a result of new residential development. The recirculated/final EIR should also propose adequate measures to mitigate these impacts to a level less than significant.
44. The Wildlife Agencies are concerned about the inclusion of the proposed Signature Park on S-2 because it would likely attract generalist predators to the adjacent NWR and mudflats. The Signature Park includes amenities such as lighting, picnic areas, and vending of food and beverages, which could attract generalist predators due to an increase in trash. Though trash containers would be provided, some windblown trash from park users would end up in the adjacent wildlife habitats (Significant Impact 4.5-1), thus attracting predators that also prey on ground nesting birds.

45. The recirculated/final EIR should identify the potential for indirect impacts to wildlife from increased predator perching due to the building heights and designs and types of landscaping proposed on the following parcels (adjacent habitat affected shown in parenthesis): S-1 (Sweetwater Marsh), S-4 (Sweetwater Marsh), H-3 (F&G Street Marsh), H-13 (J Street Marsh), H-14 (J Street Marsh), and O-1A and O-1B (J Street Marsh).

Mitigation Measures

46. We recommend that all relatively tall structures and all landscaping within the project site be situated away from sensitive habitats to reduce predator perches with a line-of-sight into adjacent sensitive habitats, as well as to reduce shading effects on sensitive habitats, and bird strikes (*i.e.*, collisions with reflective glass). For example, development on S-1 and S-4 should be re-oriented so that the buildings (*e.g.*, 125-foot tall buildings proposed on Parcel S-4) and any tall landscaping is located at the southern portion of the parcels while the parking is located at the north end of the parcels. This would minimize the introduction of predator perching with a line-of-sight into the adjacent marshes north and west of the parcels. Figure 3-9 of the DEIR shows that the buildings are proposed to be located at the northern end of the parcels in close proximity to the adjacent sensitive habitats. Similarly, the tallest buildings associated with the RCC should be located on the southeast portion of Parcel H-3. This would also reduce the RCC's shading impacts to the F&G Street Marsh and minimize the potential for bird strikes.
47. While the DEIR acknowledges that increased predation could result from an increase in predator perches with a line-of-site into habitats, no mitigation measures are proposed to avoid and minimize such impacts. The recirculated/final EIR should require that all buildings, signs, lighting fixtures, and tall landscaping with a line-of-site into sensitive habitats be designed and/or placed in such a manner to avoid the introduction of predator perches and thereby reduce the potential for take of sensitive wildlife.
48. To at least partially mitigate for the project-related increase of predation take of federally and/or state listed ground nesting birds (*i.e.*, least tern, western snowy plover, clapper rail, and Belding's savannah sparrow), the recirculated/final EIR should require (a) that the applicant establish a non-wasting endowment that would accrue sufficient interest annually to underwrite the costs of the services of predator control specialists, such as U.S. Department of Agriculture, Wildlife Services, and (b) the in-perpetuity implementation of a predator control on the adjacent NWR (Sweetwater Marsh and South San Diego Bay Units) and other sensitive habitat areas (mudflats west of Sweetwater District, J Street Marsh). The Port should coordinate with the Refuge Manager to determine the appropriate size of the endowment commensurate with the project-related impacts.
49. The Proposed Project would result in a significant impact to San Diego Bay and adjacent wetlands due to wind-blown litter (Significant Impact 4.5-1). To mitigate such impacts,

the project includes trash control measures (*e.g.*, trash containers with attached lids, trash control enclosures). However, this may not be adequate. Chain link fencing should be provided along the entire interface of development and sensitive habitats to capture trash and reduce attraction of predators and pest species into sensitive areas.

Disturbances to Wildlife

50. Disturbances to wildlife associated with the implementation and long-term operation of the Proposed Project should be addressed. For instance, outdoor activities, such as fireworks, concerts, and other light and noise generating activities that could be associated with the resort/conference center, Signature Park, other parkland, harbor, ferry terminal, and various retail/commercial recreation areas, and their impacts to wildlife are need to be described, and their impacts analyzed. Similarly, impacts to migratory, resident, and breeding birds that could result from the increased on-water recreation from redevelopment of the South Bay Boatyard (HW-6) and the Commercial Harbor (HW-3) within the Chula Vista Marina should also be described.

The new commercial harbor is intended to enhance public access to the water, and enhance boating activity on the water. Envisioned for this commercial harbor are water taxis, dinner boats, harbor cruises, visiting historic vessels, and boat rentals, a ferry terminal, and restaurant. Increased boating activity could negatively affect foraging and loafing activities of shorebirds and waterfowl. Increased disturbances to foraging habitat could negatively affect the stability of the adjacent nesting bird colonies (*i.e.*, South San Diego Bay and Sweetwater Marsh Refuge) because disturbance-free foraging areas to obtain food for chicks are important (Rodgers and Smith 1997). Increased boating could also displace water fowl access to feeding areas and result in a subsequent loss of production of young (Drent and Guiguet 1961, Conservation Committee Report 1978, Huffman 1999, Manning 2002). Although the birds can fly to other areas to avoid highly disturbed foraging habitat, such behavioral adaptations can increase the numbers of flights and flight times between foraging and loafing, resulting in energy deficiencies that could translate to reduced productivity and fitness (Manning 2002).

51. Though impacts to wildlife from construction noise are addressed, the DEIR does not adequately address impacts to wildlife from operational noise. The Biology sections of the recirculated/final EIR should include a discussion of operational noise impacts to wildlife. Currently, operational noise is addressed only in Section 4.7 *Noise*. Based on figure 4.7-3, it appears that noise levels that may affect several sensitive avian species could occur within all habitats within the project site [*e.g.*, L Street Marsh (HP-5), Telegraph Creek (OP-2A), ephemeral wetland (S-2A)] and habitats adjacent to the project site (J Street Channel and Marsh, and F&G Street Marsh and its tidal tributary). However, impacts to other habitats adjacent to the project site (*e.g.*, Sweetwater Marsh and South San Diego Bay Units of the NWR, Chula Vista Nature Reserve) cannot be evaluated because the noise contours provided in Figure 4.7-3 do not extend sufficiently

beyond the project boundary. As such, Figure 4.7-3 should be revised to include noise contour that extend 200 feet beyond the project boundary.

Mitigation Measures

52. Fireworks and outdoor concerts that generate noise beyond the development boundary should be restricted to outside the avian breeding season (*i.e.*, January through September, depending on the species) to minimize impacts to nesting and fledging birds.
53. To partially mitigate the Proposed Project's indirect impacts, the recirculated/final EIR should: (a) prohibit boating in the open waters east of the proposed realigned navigation channel and north of the South Bay boat yard to avoid or minimize disturbance to migratory birds feeding along the mudflats and resting in San Diego Bay; (b) require the installation of regulatory signage on buoys and boat markers along the boat channel; and, (c) require increased enforcement by the Harbor Patrol to deter watercraft from going ashore onto sensitive habitat areas (*e.g.*, Chula Vista Wildlife Reserve, northern levees of the Salt Ponds, mudflats along Sweetwater Marsh, J Street Marsh) and adversely affecting the birds and habitat that nest, forage, and rest there, and are subject to indirect project-related impacts.
54. Depending on an analysis of the noise contours in Figure 4.7-3 requested above, it may be necessary to mitigate for traffic related noise. For example, sound walls along the roads adjacent to sensitive habitats may be warranted. Potential mitigation should be addressed in the recirculated/final EIR.

Human Encroachment

55. The Wildlife Agencies are concerned that the Signature Park on Parcel S-2 would invite uncontrolled human and domestic animal encroachment onto the Refuge and the adjacent mudflats, thus disrupting wildlife. The recirculated/final EIR should require that the Proposed Project provide full-time personnel at the Signature Park to enforce restrictions on human and domestic animal access to the NWR and mudflats.
56. Shoreline promenades (HP-3, HP-6, and HP-7) occur immediately north of the J Street Channel and J Street Marsh. A four-foot-high railing is proposed to minimize encroachment into the J Street Channel and Marsh. The Wildlife Agencies recommend that the recirculated/final EIR require that the design of the railing include multiple horizontal railings and/or mesh fencing to ensure that domestic animals do not move under the railing into the marsh.
57. The following comments pertain to the Draft Port Master Plan Amendment (Appendix B to the DEIR; Draft Amendment).

- a. Page 33 of the proposed Draft Amendment describes land use designations utilized for Port-owned lands. The Port proposes to modify the “wetland” designation to “wetland and mitigation bank area.” Specifically, the Draft Amendment includes language to allow areas within the wetlands on site identified for potential enhancement, restoration, and/or creation opportunities to be utilized as mitigation for future development projects. As indicated in Comment 23, this language may be inappropriate, and should be considered for elimination from the Draft Amendment.
- b. The Draft Amendment proposes language (Page 33) that allows passive uses, such as overlooks, picnic areas, and/or spur-trails, within the wetland buffers with the proposed designation of “wetland and mitigation bank area.” These proposed modifications are inappropriate. Any wetland area, or their associated biological buffers, should be devoid of all development, including the passive uses proposed to be allowed. If such uses are to be allowed within wetland areas or their associated buffers, the recirculated/final EIR should provide an adequate analysis of the potential impacts to wetlands from these uses and discuss appropriate mitigation. Otherwise, the Port should remove from the Draft Amendment the proposed language allowing such uses.
- c. The Draft Amendment also includes language (Page 33) allowing interpretive and educational opportunities within the wetland buffers while, including coastal access. While the proposed language requires that such uses occur in a manner that will ensure the protection and preservation of these sensitive habitat areas. We recommend that all outlooks and interpretive tools occur outside of the 100-foot wetland buffer.

Bird Strikes and Disorientation

58. Despite our recommendations in our September 2005, letter, and in electronic mail to and meetings with the Port, on how the Proposed Project could avoid or minimize bird strikes and/or disorientation from collisions with buildings, the DEIR does not adequately address these impacts to migrating or resident birds. South San Diego Bay has been identified as a significant wintering ground and migratory stopover point along the Pacific Flyway because of its proximity to high-quality coastal salt marsh and San Diego Bay. Much of what remains of San Diego Bay’s historical shallow subtidal, intertidal mudflat, and salt marsh habitats within the south bay provides essential foraging and resting areas for ten of thousands of birds migrating along the Pacific Flyway. In recognition of the importance of these remaining habitats, the south bay has been designated a Western Hemisphere Shorebird Reserve Network Site and the Units within the Refuge have each been recognized as Globally Important Bird Areas by the American Bird Conservancy. The recirculated/final EIR should address these important biological resources that occur immediately adjacent to the project boundaries. Additionally, the recirculated/final EIR

should include a map showing potential migration corridors through and/or adjacent to the subject property and how the migration corridor would be affected by the project.

Mitigation measures

59. There is a high potential for impacts to migrating and resident birds colliding with the buildings located on the following parcels: S-1 (Sweetwater Marsh), S-4 (Sweetwater Marsh), H-3 (F&G Street Marsh), H-13 (J Street Marsh), H-14 (J Street Marsh), and O-1A and O-1B (J Street Marsh). The DEIR includes mitigation measures to address these impacts only from buildings greater than 100 feet in height (Mitigation Measure 4.8-24). However, as stated in the DEIR, “both tall buildings and low buildings can be dangerous to birds” (Page 4.8-89). Therefore, such measures should be applied to all buildings that have an unobstructed line of sight to nearby open water or large areas of open space regardless of height. To determine if these measures are adequate, we again recommend that monitoring for bird strikes be implemented during Phase I of project implementation. The recirculated/final EIR should also require that, if there is evidence that bird strikes are occurring, the applicant contact the Wildlife Agencies as soon as possible to discuss potential measures for implementation to reduce these impacts.
60. Buildings should be oriented so the tallest buildings are as far away as possible from San Diego Bay or adjacent habitats.
61. The height limits on Parcel H-3 should be reduced to a maximum of three stories (or 50 feet) to avoid shading impacts to adjacent habitat areas and to minimize the potential for bird strikes.

Shading of Adjacent Habitat

62. Despite our recommendations in our September 12, 2005, letter, and in electronic mail to and meetings with the Port, the DEIR fails to address the biological impacts associated with shading of habitat by buildings and structures. Reductions in available light levels from shading can disrupt photosynthetic processes and impair growth of plants, algae, and phytoplankton in wetlands or waters, and thus modify existing habitats, which in turn can impair their suitability for avian species and other wildlife. We recommended that for each development option, the recirculated/final EIR provide three-dimensional images of any structures that could cast shadows on adjacent freshwater, intertidal, and tidal wetland areas. These images should reflect the maximum allowable floor area ratio, the maximum allowable height, and the minimum contemplated setbacks (*i.e.*, buffers). The acreages of the shaded areas should be quantified by habitat type and described. Based on our review of the DEIR, we anticipate the following project components would impact habitats from shading.

- a. Development adjacent to the L-Marsh (HP-5) would consist of 300-foot tall buildings set only 50 feet back from the wetland. These buildings would shade and negatively affect the L Marsh and could potentially affect the J Street Channel and J Street Marsh. Based on an analysis of the potential shading effects of each building on sensitive habitat, the recirculated/final EIR should (a) describe modifications to building designs and/or locations (*i.e.*, reduced building heights or increased width of setbacks), and (b) if shading impacts still occur, require appropriate mitigation consistent with Comment 33.
- b. Parcel H-3 has a maximum building height of 300 feet. Depending upon the placement of the buildings on this site, future development could negatively affect the F&G Street Marsh (which would represent a direct impact to resources located on federal owned land) and its tidal inlet. To avoid shading impacts, the maximum height limit on this parcel should be reduced to three stories (or 50 feet). The recirculated/final EIR should (a) describe such modifications to the building designs, and (b) if shading impacts still occur, require appropriate mitigation consistent with Comment 33.

Increased Illumination

63. Despite our recommendations in our September 12, 2005, letter, and in electronic mail to and meetings with the Port, the DEIR does not fully address impacts associated with artificial night lighting (ANL), including direct and indirect (*i.e.*, sky glow, light pollution) ANL. ANL generally threatens wildlife by disrupting biological rhythms and otherwise interfering with the behavior of nocturnal animals (see contributions from Artificial Night Lighting Conference 2002). Nocturnal and migrating birds, migrating bats, insects, fish, and sea turtles are particularly impacted by ANL (Evans Ogden 1996 and citations therein). Migrating birds use the stars and moon for navigation during migrations. These birds can become disoriented when flying through a brightly lit area; this disorientation can lead to injury and/or death. Artificial night lighting also disrupts the behavior of fish and amphibians, and billions of moths and other insects are killed from the lights each year. ANL can also affect aquatic invertebrates that are prey for other animals. Some zooplankton migrate vertically in response to lighting. In the evening, they rise in the water column to feed on drifting microscopic plants (phytoplankton). When daylight approaches they migrate down to avoid predators. However, ANL may keep them from rising and feeding (Moore et al. 2000). Reduced predation on the phytoplankton can result in phytoplankton blooms which deplete the dissolved oxygen in the water and shade aquatic vegetation (Harder 2004). Reduced oxygen levels can then negatively affect fish or other organisms depending on dissolved oxygen in the water column.

Mitigation measures

64. The recirculated/final EIR should provide a delineation of areas with sensitive habitats that are expected to be directly or indirectly exposed to light levels of higher intensity (including increased sky glow) than existing ambient levels. The delineation should be on a large scale aerial photograph (a scaled figure). The recirculated/final EIR should evaluate the direct, indirect, and cumulative biological impacts resulting from the project-related ANL, based on the delineation, and should propose specific measures whose implementation would prevent an increase in existing ambient light levels in sensitive habitats.
65. To minimize the biological impacts from outdoor ANL, we recommend that design standards for all phases of development ensure that outdoor lighting throughout the project study area is minimized and that no project-related lighting falls outside the project boundaries, upon any habitat buffers, habitats, or open water. All lights, including street lights, pedestrian and bicycle path lighting, and any recreational lighting should be directed away from and fully shielded so as to not illuminate adjacent habitats. In addition, no external lighting of buildings (*e.g.*, cosmetic lighting) or other structures should be permitted, no lighted building signs should be permitted beyond the first floor, and all commercial signage should be provided on monument signs rather than pole signs or on the sides of buildings.
66. Lighting proposed for the Signature Park (S-2) and the Shoreline Promenade (HP-3, HP-6, and HP-7) should be placed only where needed for human safety. Lights should be on low-standing (*e.g.*, 2-foot tall) bollards, shielded, and flat-bottomed so illumination is directed downward onto the walkway and does not scatter. Low-pressure sodium bulbs that emit only a narrow range of yellow light should be utilized because monochromatic yellow light, which is not perceived as “natural” light by wildlife, minimizes ecological disruptions.

Increased Freshwater Input, Degraded Water Quality, and/or Erosional Surface Flows

67. The DEIR does not adequately describe or analyze the potential degradation of existing wetlands within and adjacent to the project site due to project-related changes in surface storm water flows, nor does it provide measures to prevent, or mitigation to offset, such degradation. The project-related storm water (freshwater) flows would be discharged into the seasonal wetland in the Sweetwater District (S-2), the F&G Street Marsh and its tidal tributary, the J Street Channel, Telegraph Creek, and the J Street Marsh. Grading in SP-1 and S-1 would increase water flows into Parcel SP-2 (season wetlands) and F&G Street Marsh, and there would be more storm drains draining into the J Street Channel and Telegraph Creek. Increases in storm water flows into relatively rare salt-water wetlands can result in a type-conversion to more common freshwater wetlands. In addition, depending on the velocity of the storm water discharges, the flows could disrupt the

morphology of the receiving waters/habitats by ongoing erosion. Over time, the discharges can seriously damage sensitive habitats. Increases in flows from impervious surfaces associated with urbanization can result in: a) stream bed scouring and habitat degradation; b) shoreline erosion and stream bank widening; c) loss of aquatic species; and d) decreased baseflow (USEPA 1999). Furthermore, the project-related increases in traffic will result in higher concentrations of vehicle-related contaminants (*e.g.*, copper, asbestos, hydrocarbons, and antifreeze) in the storm water flows.

We are particularly concerned about deleterious changes to the salt balance, morphology, hydrology, and water quality of the F&G Street Marsh and its tidal tributary because such changes can negatively affect future restoration of the F&G Street Marsh, and because the light-footed clapper rail has been known to reside there. Conversely, current storm water flows into the L-Marsh (HP-5) would be redirected to the street, potentially reducing water flows to the wetland and thereby also reducing the wetland habitat. While the DEIR acknowledges the expected changes in storm water flows, it does not quantify the changes in flow, nor does it identify the design and location of the best management practices (BMPs) for Phase I to avoid impacts associated with the post-construction surface flows. The recirculated/final EIR should include a thorough discussion of project-related changes in surface flows and how these changes would affect the existing wetlands within and adjacent to the project site.

Mitigation Measures

68. All storm water flows should be treated and filtered prior to entering existing wetlands and San Diego Bay to avoid the introduction of pollutants (*e.g.*, hydrocarbons, sediments, fertilizers, pesticides, and trash).
69. The site designs for the Proposed Project should minimize the project-related increase in dry and wet-weather surface flows, and integrate on-site BMPs that would attenuate the flows (prior to their discharge) to reduce their impacts on the morphology of sensitive habitats to which they ultimately discharge. Examples of BMPs to consider include appropriately sized grass swales and vegetated detention basins. Because these BMPs occupy space, their timely consideration of the requirements that apply to the project site pursuant to the numeric sizing criteria in the Municipal Storm Water Permit is necessary. All BMPs should be within the development footprint, outside of the buffers. The recirculated/final EIR should provide the location(s) and descriptions of the proposed construction and post-construction BMPs, and should discuss the long-term maintenance of the latter.

Marine Biological Resources and In-water Construction

70. To adequately evaluate marine biological resources and potential impacts to these resources, the recirculated/final EIR should:

- a. provide a figure indicating the different marine habitat classifications (*i.e.*, intertidal, shallow subtidal, moderate subtidal, deep subtidal, salt marsh, and eelgrass) within and adjacent to the project area;
 - b. provide a table that identifies the range of depth of different marine habitat classifications, including: (1) intertidal (+7.8 feet to -2.2 feet MLLW (mean lower low water)); (2) shallow subtidal (-2.2 MLLW to -12 feet MLLW); (3) medium subtidal (-12 feet MLLW to -20 feet MLLW), and deep subtidal (deeper than -20 feet MLLW) habitats; and
 - c. indicate the areas of intertidal habitat and shallow subtidal habitat that are/would be natural (*e.g.*, soft-bottom) vs. artificial (*e.g.*, rip rap, concrete) before and after project development. Soft bottom intertidal habitat provides foraging habitat for wading birds and shorebirds, including the federally listed endangered western snowy plover (*Charadrius alexandrinus nivosus*). Shallow subtidal habitat consisting of either unvegetated soft bottom areas or areas vegetated with eelgrass (*Zostera marina*) are considered significant habitats for birds (including the least tern and brown pelican), fish, benthic invertebrates, and other organisms (including the Pacific green sea turtle).
71. Section 4.9, *Marine Biology*, in the recirculated/final EIR should include a discussion of permanent and temporary losses of foraging habitat for birds that visually search for their fish prey and plunge-dive into the water to capture their fish. Foraging habitat is defined as open water containing suitable fish prey that is available for foraging by plunge-diving birds (*e.g.*, least terns and brown pelicans) by not being obstructed and/or covered by structures (*e.g.*, piers, docks, or boats). This is particularly significant resource at the project site due to its close proximity to the Sweetwater Marsh and South San Diego Bay Units of the Refuge and the Chula Vista Wildlife Reserve (*i.e.*, approximately 1 mile or less), where plunge-diving birds both nest and/or roost during their migration. Additionally, covering open water habitats with structures would reduce light availability in the water column and introduce hard substrate which would likely support a different species composition and biological community than the extant composition. In essence, there could be an ecological type conversion where structures are introduced. We recognize that there is a discussion of the permanent impacts to surface water foraging habitat in the Section 4.8, *Terrestrial Biology*, but the impacts to this resource resulting from in-water construction make it appropriate to include a discussion of these impacts in Section 4.9.

Mitigation measures

72. The Wildlife Agencies concur that increases in structures (*e.g.*, docks, wharfs, piers) covering the San Diego Bay should be offset (Mitigation Measures 4.8-7 and 4.8-8 in the

Section 4.8, *Terrestrial Biology*). Temporary and/or permanent reductions in foraging habitat for sight-foraging birds that feed on fish (*e.g.*, least tern, brown pelican) should be avoided and minimized. We also recommend that a mitigation measure be added that requires that temporary reductions in foraging habitat due to in-water construction activities that result in increased turbidity (*e.g.*, dredging, pile pulling, jetting, and driving) be conducted outside the breeding season of the least tern (April 1 to September 15) to avoid impacts to this listed species.

73. The Wildlife Agencies recommend that losses of intertidal habitat (*i.e.*, 0.03 acre anticipated from redevelopment of HW-3) be mitigated with creation of in-kind habitat and at a minimum 1:1 ratio. Impacts to pickleweed habitat (*i.e.*, salt marsh habitat) should be mitigated at a 4:1 ratio to be consistent with City's MSCP Subarea Plan. As such, Mitigation Measure 4.9-5A should be revised to include mitigation of 0.004 acre of pickleweed.
74. The Wildlife Agencies recommend that dredging activities be surrounded by silt curtains to minimize sedimentation and smothering of adjacent eelgrass.
75. The DEIR indicates that losses in the existing benthic community from dredging activities would be less than significant due to the rapid recolonization of the benthic community in the new area. The Wildlife Agencies request that the recirculated/final EIR provide documentation to support this conclusion. Absent such documentation, we recommend that the dredging activities be coupled with a benthic study to characterize (*e.g.*, rate and community composition) recolonization of the benthic community.

Hazards and hazardous materials/public safety (*i.e.*, contaminants)

76. The DEIR highlights areas where property owners are potentially liable for impacts of contamination. The DEIR notes that known contaminated sites must be remediated to the satisfaction of the Regional Water Quality Control Board, County of San Diego Department of Environmental Health, State Department of Toxic Substances and Disease Control (DTSC) and perhaps others. We would like to work with the above regulatory agencies to ensure that remedial actions at identified sites would be protective of ecological receptors. Such actions include consideration of ecological risk based cleanup goals for contaminated media, and ensuring that contaminated media that are on site do not migrate off site into ecologically sensitive areas such as San Diego Bay and neighboring marsh habitats, especially those in the NWR. In that regard, the recirculated/final EIR should address the following specific comments.
 - a. Mitigation for hazards posed by clean-up and construction operations should include the preparation and implementation of plans to prevent migration of contaminated material into environmentally sensitive areas. Migration paths of concern for ecological receptors include groundwater that may surface in marshes,

streams or San Diego Bay (especially at the sediment-water interface), and soil that may migrate off site via erosion and surface runoff. Contaminant levels that pose insignificant risk to human health, especially under the commercial/industrial use scenario, may still pose significant risk to ecological receptors, both in terrestrial and aquatic settings. Consequently, contaminant levels deemed to be safe for humans are not necessarily safe for ecological receptors, and measures to prevent off-site migration of hazardous contaminants should be planned and implemented even though risks to humans may not be significant.

- b. Actions being taken to address ecological hazards should be noted. For example, clean-up of Parcel HP-5 (*i.e.*, L Marsh) and any potentially contaminated areas should ensure that concentrations of contaminants in materials left on site and/or leaving the site(s) should not meet or exceed concentrations of risk to ecological receptors (*e.g.*, invertebrates, birds).
- c. Mitigation Measures 4.12-1, Item B, should mention ecological risks for areas that are to remain open and are being remediated to ecological risk-based goals (*e.g.*, the L Marsh or Unit HP-5). In Item B, replace “(*i.e.*, commercial, residential)” with “(*i.e.*, commercial, residential, ecological).”
- d. Contaminant levels suitable for ocean disposal may not be suitable for re-suspension in San Diego Bay. Accordingly, Mitigation Measures 4.5-4 and 4.9-6 should be revised by deleting the following text from part B: “If the sediment would be suitable for ocean disposal, no silt curtain shall be required.”

Consistency with the City of Chula Vista’s MSCP Subarea Plan

77. The proposed land exchange would bring lands into the City’s jurisdiction that were not considered in the development and approval of the City’s MSCP Subarea Plan. As such, take of listed species and impacts to covered species on those lands are not authorized by the MSCP. In order to bring those lands into the MSCP, development within the area to be annexed must be consistent with the MSCP and the City’s Subarea Plan. An amendment to the Subarea Plan and incidental take permit will be required (Section 5.3.1.2 of the City’s Subarea Plan). The recirculated/final EIR should incorporate this requirement and the applicant should begin working with the City and the Wildlife Agencies as soon as possible to start the amendment process.
78. Portions of Proposed Project lie within the boundaries of the City’s MSCP Subarea Plan and portions of the proposed land transfer that are currently within the Port’s jurisdiction would come under the jurisdiction of the City. Furthermore, the Proposed Project borders portions of the City’s MSCP Preserve and is surrounded by adjacent lands that lie within the boundaries of the City’s MSCP Subarea Plan. Some portions of Proposed Project site currently lie within the City and some portions of the Proposed Project site that are

currently under the Port's jurisdiction would come under the jurisdiction of the City with the proposed land exchange. Furthermore, the lands within the City are/would be within the boundaries of the City's MSCP Subarea Plan, and portions of the Proposed Project site are adjacent to the City's MSCP Preserve. As an important component of regional conservation planning efforts, the City's MSCP Subarea Plan provides a strong framework for how and where development and habitat conservation occurs within the City. Mitigation ratios established through the negotiations for habitat conservation plans (HCP)/NCCPs are generally lower than those in areas not subject to an HCP/NCCP because the planning assures that mitigation is conducted in a manner and at pre-determined locations agreed to by all parties to create a habitat preserve. The Port is not party to the MSCP or any other HCP/NCCP. We typically expect that the mitigation for project-related habitat losses within a jurisdiction with no HCP/NCCP would be provided at higher ratios than required by an HCP/NCCP to account for the lack of coordination provided by an HCP/NCCP. In this instance, we recommend that the habitat losses throughout the project site, regardless of jurisdiction, meet or exceed the mitigation ratios, guidelines, and standards required by the City's MSCP Subarea Plan to maintain consistency with its application to the on-site and adjacent areas within Plan.

79. The Wildlife Agencies recommend that vegetation classifications provided in Table 4.8-1 *Existing Vegetation Communities and Land Cover Types (acres)* and Figure 4.8-3 *Vegetation Communities and Land Cover Types* be consistent with the vegetation classification for the City's MSCP. The DEIR utilizes alternative vegetation classifications for some habitat types. For instance, coastal brackish marsh in the DEIR is classified as southern coastal salt marsh by the MSCP, seasonal pond in the DEIR is classified as disturbed wetland by the MSCP, and disturbed riparian in the DEIR is classified as disturbed southern coastal salt marsh by the MSCP.

Mitigation Measures

To assure consistency with the MSCP throughout the project site, we provide the following specific comments on the proposed mitigation measures.

80. In order to limit construction disturbance to raptors, we recommend that Mitigation Measure 4.8-1 be modified, as follows.

To ensure that no direct or indirect impacts to nesting raptors occur during construction (including clearing and grubbing), construction activities within the area of potential effect for nesting habitat should occur outside of the raptor breeding season (January 15 to July 31), or sooner if a qualified biologist demonstrates to the satisfaction of the Wildlife Agencies that all nesting activities are complete. If construction (other than vegetation clearing and grubbing) must occur during the breeding season, prior to initiating any construction-related activities,

pre-construction surveys must be performed by a City- or Port-approved (depending on the jurisdiction) biologist to determine the presence or absence of nesting raptors within 500-feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and its results submitted to the City or Port (depending on the jurisdiction) for review and approval prior to initiating any construction activities. If nesting raptors are detected, a mitigation plan shall be prepared by a City- or Port-approved biologist and submitted to both the City and Port for review and approval. The applicant shall implement the mitigation plan to the satisfaction of the City and Port to ensure that disturbance of breeding activities is reduced to a level less than significant. A bio-monitor must be on site during construction until all young have fledged to minimize construction impacts and ensure that no nests are removed or disturbed and no nesting activities are disrupted.

81. In order to limit construction disturbance to burrowing owls, we recommend that Mitigation Measure 4.8-2 be modified, as follows:

To ensure that no direct or indirect impacts to nesting burrowing owls occur during construction (including clearing and grubbing), construction activities within the area of potential effect for nesting habitat should occur outside of the burrowing owl's breeding season (April 15 to July 31), or sooner if a qualified biologist demonstrates to the satisfaction of the Wildlife Agencies that all nesting is complete. If construction (other than vegetation clearing and grubbing) must occur during the breeding season, prior to initiating any construction-related activities, pre-construction surveys must be performed by a City- or Port-approved (depending on the jurisdiction) biologist to determine the presence or absence of active burrows within all suitable habitat. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and its results submitted to the City or Port (depending on the jurisdiction) for review and approval prior to initiating any construction activities. If an active burrow is detected during the breeding season, a mitigation plan shall be prepared by a City- or Port-approved biologist and submitted to both the City and Port for review and approval. The applicant shall implement the mitigation plan to the satisfaction of the City and Port to ensure that disturbance of breeding activities is reduced to a level less than significant. Construction setbacks of 300 feet from occupied burrows shall be implemented until the young are completely independent of the nest. A bio-monitor must be on site during construction until all young have fledged to minimize construction impacts and ensure that no nests are removed or disturbed

and no nesting activities are disrupted. If an active burrow is found outside of the breeding season, or after an active nest is determined to no longer be active by a qualified biologist, the burrowing owl would be relocated in coordination with the Wildlife Agencies.

82. In order to limit construction disturbance to migratory birds, we recommend that Mitigation Measure 4.8-3 be modified, as follows:

To ensure that no direct or indirect impacts to nesting migratory birds occur during construction (including clearing and grubbing), construction activities within the area of potential effect for nesting habitat should occur outside of the general avian breeding season (January 15 to August 31), or sooner if a qualified biologist demonstrates to the satisfaction of the Wildlife Agencies that all nesting is complete. If construction (other than vegetation clearing and grubbing) must occur during the breeding season, prior to initiating any construction-related activities, pre-construction surveys must be performed by a City- or Port-approved (depending on the jurisdiction) approved biologist to determine the presence or absence of nesting birds within 300 feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and its results submitted to the City or Port (depending on the jurisdiction) for review and approval prior to initiating any construction activities. If nesting birds are detected, a mitigation plan shall be prepared by a City- or Port-approved biologist and submitted to both the City and Port for review and approval. The applicant shall implement the mitigation plan to the satisfaction of the City and Port to ensure that disturbance of breeding activities is reduced to a level less than significant. A bio-monitor should be on site during construction until all young have fledged to minimize construction impacts and ensure that no nest is removed or disturbed and no nesting activities are disrupted.

83. As indicated on page 3-17 of the DEIR, “The project site is situated entirely within the Chula Vista Coastal Zone.” To be consistent with the City’s MSCP Subarea Plan, recirculated/final EIR should require that all impacts to riparian scrub be mitigated at a 3:1 ratio, not 2:1 as indicated in Mitigation Measures 4.8-9 and 4.8-10.
84. The following comments relate to the Proposed Project’s consistency with the City’s MSCP Preserve adjacency guidelines. The recirculated/final EIR should reflect that application of these guidelines to all parcels adjacent to City’s MSCP Preserve (*i.e.*, Parcels SP-1, S-4, SP-2, S-2A, HP-11, HP-6, and HP-7), as well any parcels adjacent to sensitive habitats [Sweetwater Marsh and South San Diego Bay Units of the Refuge, San

Diego Bay, the mudflats west of the Sweetwater District, F&G Street Marsh and its associated tidal inlet, L Marsh (HP-5), J Street Marsh, Telegraph Creek, and Chula Vista Wildlife Reserve]. For purposes of this letter, all of the sensitive habitats listed in the brackets above are considered Preserve.

- a. In parcels adjacent to Preserve areas, permanent fencing (*i.e.*, a minimum six-foot tall black vinyl chain link fence) should be placed along the boundary between the ecological buffer and the Proposed Project use area. Stands of native cacti, for example as proposed on page 4.8-71 of the DEIR, cannot effectively keep humans and domestic animals out of the Preserve areas.
- b. Mitigation Measure 4.8-6 A. should be modified to read as follows.

Construction related noise shall be limited adjacent to the Sweetwater Marsh and South San Diego Bay Units of the Refuge, F&G Street Marsh, the mudflats west of the Sweetwater District, and J Street Marsh during the general avian breeding season of January 15 to August 31. During the avian breeding season, noise levels from construction activities must not exceed 60 dB(A) L_{eq} , or ambient noise levels if higher than 60dB(A). Before any construction begins, a qualified acoustician shall prepare and submit to the Port and City for review and approval an acoustical analysis to determine the ambient noise level, anticipated noise level of construction, and whether noise attenuation measures will need to be implemented to reduce the expected noise level to below 60dB(A). If noise attenuation measures or modifications to construction activities are unable to reduce the noise level below 60dB(A), either the applicant must immediately consult with the Wildlife Agencies to develop a noise attenuation plan or construction in the affected areas must cease until the end of the breeding season.

- c. The first sentence of Mitigation Measure 4.8-6 B should read as follows.

To reduce the potential for raptors to perch within the landscaping and hunt sensitive bird species from those perches, the following design criteria will be identified in the CVBMP master landscape plan and incorporated into all building and landscape plans with a line-of-sight to the City's MSCP Preserve, buffer zones, and on-site open space.

- d. Mitigation Measure 4.8-6 F indicates that all landscaping plans must ensure that no plants listed in Appendix N of the City's MSCP Subarea Plan are planted in

the project area. However, when referring to landscaping, the City's MSCP Subarea Plan makes reference instead to the "Wildland/Urban Interface: Fuel Modification Standards," or Appendix L, of the Subarea Plan. In addition, it specifies that no invasive non-native plant species should be introduced into areas immediately adjacent to Preserve areas. All project-related landscaping plans should include, to the maximum extent practicable, native plants that are compatible with native vegetation located in the ecological buffers and/or MSCP Preserve.

- e. Mitigation Measure 4.8-6 G should provide more specific language as to how the Proposed Project would minimize the release of toxins, chemicals, petroleum products, exotic plant materials, and other pollutants that might degrade or harm the natural environment or ecosystem processes within the Preserve. As discussed above (and as mentioned in Comment 67), it is unclear what BMPs would be used to prevent the release of such pollutants and how the project would meet NPDES (National Pollution Discharge Elimination System) standards and the requirements of the City's Standard Urban Storm Mitigation Plan.
- f. Mitigation Measure 4.8-6 J should specify that all trash cans installed on the project site would be animal- (non-human) proof. The proposal to provide trash cans with lids is not enough of a deterrent to scavenging animals.
- g. Table 4.8-6 *Mitigation Required for Significant Impacts to Vegetation Communities and Land Cover Types – Port Lands (acres)* should include the following revisions.
 - i. The mitigation ratio for disturbed seasonal pond (*e.g.*, classified as disturbed wetland per the City's MSCP) should be increased from 1:1 to 2:1 to be consistent with the City's MSCP Subarea Plan.
 - ii. Impacts and mitigation for losses to non-native grassland and other raptor foraging habitat (*i.e.*, habitat in the Sweetwater District) should be included in the table consistent with the City's MSCP. The mitigation ration for losses to non-native grassland and other raptor foraging habitat is 0.5:1 if mitigated inside Preserve-designated land and 1:1 if mitigated outside preserve-designated land. As explained in Comment 29, mitigation for project-related losses of raptor foraging habitat should occur at a ratio of 1:1 away from the project site.
 - iii. The acreage of permanent impacts to southern coastal salt marsh during Phase II should be increased from 0.04 to 0.10 to be consistent with the text on page 4.8–75 of the DEIR. The acreage of mitigation provided for

this impact should be appropriately revised to 0.4 acre, as written under Mitigation Measure 4.8-9.

- h. Mitigation Measure 4.8-9 should be revised to include mitigation for loss of non-native grassland, disturbed habitat that is raptor foraging habitat (*i.e.*, Sweetwater District), and coastal sage scrub in Phase III.
 - i. Mitigation Measure 4.8-11 and Table 4.8-9 should be revised to indicate that impacts to Corps jurisdictional waters should be mitigated at a 2:1 ratio to be consistent with the City's MSCP.
85. The DEIR identifies temporary impacts that the project would have on sensitive habitats within the project footprint and indicates that all temporary impacts would be mitigated at 1:1. This is inconsistent with the guidelines established by the City's MSCP Subarea Plan, which requires the same mitigation for temporary and permanent impacts. Therefore, the recirculated/final EIR should account for appropriate temporary impact mitigation according to the mitigation ratios listed in Tables 5-3 and 5-6 of the MSCP Subarea Plan.
86. The recirculated/final EIR should include a map that clearly depicts: a) the jurisdictional boundaries before and after the land exchange; b) vegetation communities within both areas; and c) sensitive species points that are present in both the Port and City's jurisdictions after the land exchange. This will allow a determination of the Proposed Project's effects on habitats and species within each jurisdiction. This information will also be necessary to process the required amendment to the City's MSCP Subarea Plan and incidental take permit.

Growth Inducement

84. The Growth Inducement discussion in the DEIR focuses on the economic effects of the Proposed Project, but ignores the significant effects to the environment that could result from growth in the surrounding area, that is, growth that is related to redevelopment of the subject property. The recirculated/final EIR should expand this section to address the significant effects on the environment, both individually and cumulatively, from growth stimulated by the subject project (*i.e.*, growth that would likely not occur but for the approval and implementation of the Chula Vista Bayfront Master Plan). An evaluation of the effects on air and water quality as a result of this new growth should be provided, as well as a discussion of the potential for even greater impacts (*e.g.*, night lighting, human and pet intrusion, increased noise levels) than the Proposed Project alone would cause to nearby sensitive biological resources.

Mitigation Measure

85. Impacts associated with the growth-inducing effects of project implementation could be reduced if the appropriate planning documents that regulate development in the areas immediately surrounding the project are amended to include specific development and design criteria for new development. Such criteria would include: restrictions on lighted signage; requirements for fully shielded street and other outdoor lights; restrictions on uses that could generate excessive noise impacts, particularly at night; building design standards that address height, lighting, and window design; and requirements for adequately sized open space and public recreation areas to accommodate new residents and their pets.

Unavoidable and Irreversible Significant Environmental Effects

86. The Wildlife Agencies do not agree that implementation of the mitigation measures identified in the DEIR would reduce the impacts to biological resources to a level less than significant. Therefore, this section in the recirculated/final EIR should discuss the unavoidable and irreversible effects that implementation of the Proposed Project would have on the sensitive coastal resources that occur within and adjacent to the project boundaries.

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Response to Comment B-1

This comment is an introductory comment indicating that the U.S. Fish and Wildlife Service (USFWS) is providing comments on the Draft EIR for the proposed project. Additionally, the comment also states USFWS's legal responsibility and that it owns and operates the National Wildlife Refuge (NWR). The comment also summarizes the proposed project.

The District appreciates USFWS's interest in the proposed project. This comment does not raise any issues requiring a response pursuant to CEQA. The specific comments raised in the pages that follow this introduction are listed separately along with the District's individual responses.

Response to Comment B-2

This comment identifies the previous comments provided to the District by USFWS, which includes comments on the Notice of Preparation (NOP) for the Draft EIR, as well as recommendations for fireworks display events in San Diego Bay. The comment also states that the Draft EIR addresses some past comments, but indicates that many are not adequately addressed.

The specific responses to these letters are provided in responses to comments B-24 through B-49 below. No specific environmental issues are raised in this comment, so no further response is warranted.

Response to Comment B-3

This comment states that USFWS has been involved in past fireworks display events to develop minimization measures for federally listed species. The comment also indicates that USFWS suggested in a letter dated May 9, 2016 that fireworks display events be excluded in south San Diego Bay during the nesting season.

The specific responses to this letter are provided in responses to comments B-24 through B-40 below. No specific environmental issues are raised in this comment, so no further response is needed.

Response to Comment B-4

The comment states USFWS's concerns that fireworks display events in south San Diego Bay will result in impacts on nesting, roosting, rafting, and foraging seabirds, shorebirds, and waterfowl. The comment specifically identifies that fireworks noise, light, and vibration, as well as a significant increase in spectators, may result in direct and indirect effects on avian species present in south San Diego Bay and the San Diego Bay NWR. The comment recommends that fireworks display events do not occur in the vicinity of the Chula Vista Bayfront, and that the District consider an alternative that would not introduce nighttime lighting near the NWR.

The environmental impacts of the proposed project are fully disclosed in the Draft EIR. The Draft EIR considered the potential direct and indirect effects of the proposed new fireworks display events on biological resources, including sensitive species, habitat, and native wildlife nursery sites, which included impacts associated with fireworks noise, light, and vibration, as well as trash and debris from the fireworks themselves. The potential indirect effects analyzed included human-generated trash and debris, human trespass within or adjacent to sensitive areas and wetlands, and increased boat traffic. As discussed in Section 4.3, *Biological Resources*, of the Draft EIR, all

potentially significant impacts would be reduced to a less than significant level with the implementation of mitigation measures.

Regarding the commenter's recommendation to consider an alternative that will not introduce nighttime fireworks in the vicinity of the NWR, the No Project Alternative (as described in Chapter 7, *Alternatives to the Proposed Project*), would meet this recommendation. The No Project Alternative was one of three alternatives considered and selected for detailed analysis in the Draft EIR. Under the No Project Alternative, the proposed new fireworks display events along the National City and Chula Vista Bayfronts would not occur. As a result, no nighttime fireworks would be introduced in the vicinity of the NWR or any other sensitive habitat or species within south San Diego Bay. No changes to the Final EIR are required.

Response to Comment B-5

This comment states that the description of the proposed barge location for the National City Bayfront fireworks display event is inconsistent with Figure 2-1. The comment states that the text of the Draft EIR implies that the barge for this display would be located in the Sweetwater River channel.

The commenter is correct in stating that the proposed barge location for the National City Bayfront fireworks display event would be well north of Pepper Park, where there would be little to no public access to the waterfront. Pepper Park is the closest publicly accessible space that could potentially have a partial view of this fireworks display event. As depicted on Figure 2-1, the proposed barge is located in the middle of the Bay and not within the Sweetwater River channel. Chapter 2, *Environmental Setting*, has been revised to further clarify the location of the proposed barge for the National City Bayfront fireworks display event. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

The comment identifies concerns with potential impacts on least terns from fireworks launch sites. The potential impacts on the California least tern are detailed within Section 4.3, *Biological Resources*, of the Draft EIR.

Additionally, the commenter is correct that Chapter 2 does not address the potential for the new sites to include pier areas. As indicated in Chapter 3, *Project Description*, of the Draft EIR, the proposed new fireworks display events are anticipated to be launched from barges within San Diego Bay. Section 4.3, *Biological Resources*, of the Draft EIR has been revised to clarify that the proposed new fireworks display event is anticipated to occur on barges only. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR. As pier areas are not being used (as clarified in the Errata), the Draft EIR does not require recirculation.

Response to Comment B-6

The comment indicates that the proposed barge location for the Chula Vista Bayfront fireworks display events appears to be located within the NWR based on Figure 2-1. The comment states that any fireworks display event within the NWR would require a Special Use Permit from USFWS and compliance with NEPA. The comment indicates that additional discussion regarding this issue is to follow.

In response to USFWS's concerns regarding the barge for the proposed Chula Vista Bayfront fireworks display events being located within the NWR, the barge for these fireworks display events

has been relocated outside of the NWR. Specifically, the relocated barge has been positioned outside of the eastern boundary of the Refuge, in the middle of the Bay. Accordingly, the revised location for the Chula Vista Bayfront fireworks display events has been updated in Figure 2-1. The relocated barge site for the proposed Chula Vista Bayfront fireworks display event would still maintain a minimum 1-mile distance from least tern and snowy plover nesting colonies, and therefore would not result in any changes to the impact analysis. In addition, because the relocated barge site would be positioned in deeper open water, the potential for eelgrass impacts is reduced from what was originally proposed. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-7

The comment suggests that the habitat information provided in Figure 4.3-1 is incomplete and should be updated to show additional salt marsh, as well as the D Street Fill and South Bay Salt Works levees, which should be shown as supporting seabird and shorebird nesting habitat.

Figure 4.3-1 has been updated as suggested to include additional habitat. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-8

The comment suggests that the habitat information provided in Figure 4.3-2 is incomplete and should be updated to include snowy plover habitat at Silver Strand State Beach and the Navy's proposed alternate least tern nesting site at Naval Air Station North Island. The comment also states that the "Sensitive Nesting Area 1 Mile" will need to be adjusted to reflect this new habitat.

Figure 4.3-2 has been updated as suggested to include snowy plover habitat at Silver Strand State Beach and the 1-mile buffer has been revised accordingly. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-9

The comment states that the discussion of San Diego Bay's subtidal vegetated habitat should also address the importance of this habitat to the Bay's population of eastern Pacific green sea turtles.

Section 4.3, *Biological Resources*, of the Draft EIR has been updated to identify that eelgrass beds are considered an important foraging resource for the resident population of eastern Pacific green sea turtles, a threatened species under the Endangered Species Act. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-10

This comment suggests that the discussion of upland transition and upland areas be expanded to recognize seabird nesting areas in proximity to the proposed new fireworks displays, including the D Street Fill and levees of the South Bay Salt Works. The comment states that the effects on nesting birds within these areas should be evaluated.

The effects on nesting birds within these areas is evaluated in Section 4.3, *Biological Resources*, of the Draft EIR. Section 4.3 has been updated to recognize seabird nesting areas within the South Bay Salt Works, on the D Street Fill, and on portions of the Chula Vista Wildlife Reserve Island. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-11

The comment states that the South Bay Salt Ponds are part of the NWR and not a separate area.

Section 4.3, *Biological Resources*, of the Draft EIR has been updated as suggested to clarify that the South Bay Salt Ponds are part of the NWR. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-12

The comment states that the South Bay Salt Works levees and Pond 11 are managed by USFWS, not the District.

Section 4.3, *Biological Resources*, of the Draft EIR has been updated as suggested to clarify that the South Bay Salt Works levees and Pond 11 are managed by USFWS, rather than the District. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-13

The comment states that Table 4.3-2 inaccurately states that eastern Pacific green sea turtles have a low potential to occur in San Diego Bay. In addition, the comment states that northern harriers have a high potential to occur south San Diego Bay.

Table 4.3-2 has been updated as suggested to indicate that eastern Pacific green sea turtles and northern harrier have a high potential to occur. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-14

The comment indicates that the barge location for the proposed Chula Vista Bayfront fireworks display events appears to be located within the boundaries of the NWR, and suggests that the discussion of applicable laws and regulations in the Draft EIR be expanded to address Federal regulations related to uses on a NWR.

Please see response to comment B-6. The barge for the proposed Chula Vista Bayfront fireworks display events has been relocated outside of the NWR. Moreover, Section 4.3, *Biological Resources*, of the Draft EIR has been updated to include a discussion of the applicable Federal regulations related to uses on a NWR, including National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvements Act of 1997, as well as the National Environmental Policy Act. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-15

The comment summarizes the requirements of the National Wildlife Refuge System Improvements Act and USFWS's Appropriate Use Policy. The comment further states that, under the authority of the National Wildlife Refuge System Improvements Act, fireworks displays conducted on a NWR would not represent an appropriate or compatible use of NWR lands. The commenter further indicates that a Refuge Special Use Permit to allow such events could not be issued.

Please see response to comment B-6. The barge for the proposed Chula Vista Bayfront fireworks display events has been relocated outside of the NWR based on guidance from USFWS. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-16

The comment states that the discussion of impacts on birds and listed species should be expanded if there is a potential for a barge to be sited within the Sweetwater River channel near Pepper Park or if the proposed new fireworks display events would be located anywhere other than where they are currently identified on Figure 2-1.

Please see responses to comments B-5 and B-6. No barges are proposed to be sited anywhere within the Sweetwater River channel. Therefore, an expanded discussion of impacts on birds and other listed species is not required. As indicated in earlier responses, the barge for the proposed Chula Vista Bayfront fireworks display events has been relocated outside of the NWR based on guidance from USFWS. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment B-17

The comment states that the proposed mitigation measures to minimize indirect impacts related to human disturbance on nesting areas is inadequate because they only address public viewing areas. Areas that may be impacted by unauthorized access are the open water areas and other areas not open to the public. The comment also states the USFWS opinion that the proposed mitigation to minimize human impacts on nesting areas is inadequate specifically regarding unauthorized access.

In response to this comment the District has revised the mitigation measure MM-BIO-2 and the proposed ordinance to include requirements for events in the South Bay to hire private security to patrol the water area and enforce the existing restrictions on access to unauthorized areas as follows:

- (e) Protection of Species and Habitat. The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:
 - 3. Security. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays.

In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay.

Response to Comment B-18

The comment indicates that no monitoring is currently proposed to determine if the measures included in the Draft EIR are being implemented and or are effective in avoiding and minimizing impacts on nesting least terns, snowy plovers, and rails. The comment suggests that monitoring

should be included to assess the initial response and overall effects on nesting success on these species. The comment states that additional assurance is needed to ensure that avoidance and minimization are effectively implemented as described in the Draft EIR.

Section 4.3, *Biological Resources*, of the Draft EIR has been updated to include a clarifying mitigation measure (MM-BIO-4) that would require biological monitoring and reporting for the proposed new fireworks display events in south San Diego Bay. It should be noted that all potentially significant impacts on biological resources were determined in the Draft EIR to be less than significant with the implementation of mitigation measures. The addition of the biological monitoring mitigation measure as suggested by USFWS and CDFW would not result in any changes to the determinations made in the Draft EIR. Changes to mitigation are included in Chapter 3, *Errata and Revisions*, of the Final EIR and are reflected in the project's Mitigation Monitoring and Reporting Program (MMRP).

In addition, Section 7 (o) has been added to the proposed ordinance as follows and shown in Chapter 3, *Errata and Revisions*, of the Final EIR:

- (o) Mitigation Measures: All permit applications shall be reviewed by the District for consistency with the Mitigation Monitoring and Reporting Program (MMRP) from the Final Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project, as certified by the Board of Port Commissioners, and all applicable mitigation measures from the MMRP shall be identified as required conditions of the approved permit issued by the District.

Response to Comment B-19

The comment suggests that the Draft EIR should distinguish between the ambient nighttime disturbance levels at nesting sites in north San Diego Bay and the Refuge under baseline conditions.

Section 4.3, *Biological Resources*, of the Draft EIR has been updated as suggested to distinguish between the existing ambient nighttime disturbance levels at nesting sites in north San Diego Bay and the Refuge. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR. The revisions to Section 4.3 do not result in changes to the conclusions of impacts and mitigation measures as identified in the EIR.

Response to Comment B-20

The comment identifies the previous fireworks monitoring efforts that were discussed in Appendix F, Biological Technical Report, of the Draft EIR. The comment repeats the conclusion in Appendix F that the level of stress generated from the fireworks translate to a level achieving harassment or harm for avian species. The comment states that this conclusion is not consistent with the results of the Gualala Point study, and cites the malfunction that occurred during the 2012 Big Bay Boom. The comment acknowledges that it is difficult to quantify the number and extent of impacts, but states that USFWS remains concerned about potential effects. The comment states the difference in ambient nighttime disturbances between the Refuge and San Diego International Airport and Naval Base Coronado. The comment further states that USFWS anticipates avian response to be greater at the Refuge because of these differences.

The discussion of fireworks disturbance to nesting birds has included a broad survey of available information with a range of avian response to fireworks shows that range from nest abandonment to temporary disturbance without lasting effects. This summary of available case studies was

provided and utilized in Appendix F, Biological Technical Report (BTR) of the Draft EIR in order to frame the discussion on impact scale anticipated within San Diego Bay and make a determination as to the anticipated nature and degree of effect the San Diego Bay fireworks shows would have on sensitive nesting species. The commenter notes that Appendix F identified differing degrees of avian response from differing fireworks events and that its conclusions appear to be inconsistent with the study at Gualala Point, as well as observations reported by Robert Patton at the San Diego Airport colony during the malfunction detonation of all fireworks simultaneously during 2012. However, in these instances, the circumstances differed substantively from the proposed fireworks activities. In the first, as reported in the BTR, both the circumstances of the colony site and the bird species involved were substantively different from the activities proposed for San Diego Bay. In the second instance, the fireworks disturbance was the result of an anomalous malfunction resulting in a 30-second continuous detonation rather than an extended fireworks show with lower illumination and noise levels over a more prolonged period. For these reasons, it is believed that the best indication of avian response to the fireworks shows in San Diego Bay are derived from the results from monitoring during prior events within the Bay with normal detonation sequencing and frequencies. We concur with the commenter's note that the ambient conditions at the nest sites vary through the Bay with the Refuge and other South Bay colonies having lower overall disturbance levels and thus it would be expected that birds on these nest sites would be less habituated to disturbance (see response to B-19). This was noted in the BTR. The proposed ordinance integrates conditions requiring that launch sites be located at least 1 mile from nest colony sites or that shells be reduced to no more than 8-inch diameter in order to control the experienced scale of the show at sensitive species nest sites. In addition, as previously stated, measures have been integrated into the proposed ordinance to control secondary disturbance of public access on sensitive nest areas. With these measures, it is anticipated that the distance from nest sites of plovers and terns and the scale of the new fireworks display event would be adequately controlled to remain similar in effect to those that have been occurring in the north Bay.

Response to Comment B-21

The comment suggests that the Draft EIR should include conservation measures similar to those previously provided by the USFWS's Carlsbad Office to avoid and minimize impacts on sensitive wildlife, such as nesting least terns and snowy plovers. The comment also lists the specific conservation measures that were previously provided by USFWS.

The recommended conservation measures were previously provided by USFWS in a comment letter on the NOP for the proposed project on October 6, 2015. The District considered USFWS's previously recommended conservation measures when preparing the Draft EIR. As detailed in Section 4.3, *Biological Resources*, of the Draft EIR, all potentially significant biological resources impacts would be less than significant with the implementation of mitigation. As originally proposed in Chapter 3, *Project Description*, of the Draft EIR, the proposed barge locations for both the National City and Chula Vista Bayfront fireworks display events were located a minimum of 1 mile from sensitive nesting colonies. The barge for the proposed Chula Vista Bayfront fireworks display events has been relocated outside of the NWR as suggested by USFWS. As shown on Figure 4.3-1, which has been revised to reflect the relocated barge for the Chula Vista Bayfront fireworks display events, both launch sites for the proposed new fireworks display events are located a minimum of 1 mile from the closest sensitive nesting colonies.

Regarding recommended conservation measure (2), mitigation measure MM-BIO-2 requires the provision of security guards to direct persons away from and to discourage trespass into sensitive

nesting areas or habitat during the proposed new fireworks display events. As discussed in Section 4.3, the Harbor Police Department (HPD) currently assigns units to major patrol areas and deploys additional units on tidelands including bicycle and vessel units during existing fireworks display events (Brick pers. comm.). The landside patrols provide law enforcement within the landside viewing areas, while the special patrol vessels provide law enforcement on the water. Consistent with its current operational practices, HPD would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events. These existing procedures ensure that boating laws are properly enforced in the Bay. The District staff will continue to coordinate with HPD and U.S. Coast Guard, who are responsible for lawful boating practices in the Bay. In addition, MM-BIO-2 in Section 4.3 of the Draft EIR has been updated to include clarifying language to augment landside security patrols with in-water security patrols. This clarifying language is consistent with the analysis provided in the Draft EIR and current best practices. This clarifying language is included in Chapter 3, *Errata and Revisions*, of the Final EIR and is reflected in the project's MMRP.

Regarding recommended conservation measure (3), the maximum shell size allowed for the proposed new displays would be limited to 8 inches, as detailed in Chapter 3, *Project Description*, of the Draft EIR. This represents a reduction of 2 inches from other Fourth of July fireworks display events such as the Big Bay Boom. The 8-inch maximum shell size is consistent with the Fourth of July Imperial Beach Fireworks Show, as discussed in USFWS's letter dated May 6, 2016. In addition, mitigation measure MM-NOI-1 as described in Section 4.8, *Noise and Vibration*, requires that the maximum shell size is limited to 8 inches for any fireworks display event located within 1 mile of sensitive nesting colonies. This would further ensure that noise levels are reduced around sensitive nesting colonies.

Regarding recommended conservation measures (4) and (5), Section 4.3, *Biological Resources*, of the Draft EIR has been updated to include a clarifying mitigation measure (MM-BIO-4) that provides additional assurance that biological impacts would remain less than significant by requiring biological monitoring and reporting specific to the proposed new fireworks display events along the National City and Chula Vista Bayfronts. This measure is provided to ensure the fireworks are carried out as described in Chapter 3, *Project Description*, of the Draft EIR, and to account for any needed adjustments to continue to avoid and minimize impacts on biological resources. This clarifying mitigation measure is included in Chapter 3, *Errata and Revisions*, of the Final EIR and is reflected in the project's MMRP.

Response to Comment B-22

The comment states that the Draft EIR should discuss the occurrence and location of rafting bird species during the non-breeding season, footprint of increased boat traffic, and the potential impacts of increased boat traffic on rafting birds in south San Diego Bay. The comment also states that minimization measures should be identified to reduce the impacts of increased boat traffic on rafting birds.

Section 4.3, *Biological Resources*, of the Draft EIR has been updated to describe the rafting bird use of the Bay and to analyze project effects on this resource in more detail. The concerns over increased boat traffic impacts on nesting and roosting birds was discussed in the BTR and Draft EIR, however there was not a focus on loafing and rafting birds. The effects of increased boat traffic and fireworks displays on rafting birds are considered to be less than significant, causing temporary displacement over short periods of time within areas that are centered around launch barges. This effect is

substantially curtailed outside of the winter migratory period due to an overall reduction in the number of birds rafting on the waters. Additionally, south San Diego Bay has a posted 5 miles per hour speed limit. Further, because rafting tends to be highest in waters of protected leeward environments or extreme shallows, and vessel traffic and activities would be expected to be aggregated around launch barges that are proposed to be located further from shore or in areas of existing high traffic as a result of nesting colony buffering distances and established show locations, the highest density loafing areas would likely see little increase in vessel traffic disturbance.

Response to Comment B-23

This comment concludes the comment letter and provides a contact name and information.

The District appreciates USFWS's interest in the proposed project. This comment does not raise any issues needing a response pursuant to CEQA.

Response to Comment B-24

This comment is an introductory comment stating that the comment letter is being provided in response to the District's request for guidance from USFWS to reduce the potential effects on biological resources from the Big Bay Boom and Fourth of July Imperial Beach Fireworks Show on July 4, 2016. The comment also notes that USFWS previously provided comments on the NOP for the proposed project in a letter dated October 6, 2015.

Please refer to responses B-41 through B-49 regarding comments on the NOP on the Draft Environmental Impact Report in the letter dated October 6, 2015.

Response to Comment B-25

The comment states that USFWS is pleased that no fireworks display events are proposed at the Chula Vista Bayfront or Loews Coronado Resort for 2016 due to their proximity to sensitive wildlife. The comment also recommends that no future fireworks displays occur in these areas in the future during the nesting season.

This comment was based on anticipated Fourth of July fireworks display events for 2016. As discussed in Chapter 3, *Project Description*, of the Draft EIR, the proposed project includes three proposed new fireworks display events in San Diego Bay adjacent to the Chula Vista Bayfront, including one display on the Fourth of July. As identified in Section 4.3, *Biological Resources*, of the Draft EIR, the Draft EIR and the proposed ordinance include measures to reduce impacts on avian species during the nesting season to less than significant. The recommendation to exclude future fireworks display events in the nesting season adjacent to the Chula Vista Bayfront or Loews Coronado Resort would be considered by the Board of Port Commissioners when it makes its decision on whether or not to certify the Draft EIR.

Response to Comment B-26

The comment states the 2016 Big Bay Boom and Imperial Beach fireworks shows will occur in the same locations as previous shows. The comment states that the shells launched from the barges will be a maximum of 10-inches, and the shells launched from the Imperial Beach Pier will be a maximum of 8 inches.

This comment repeats the characteristics of the 2016 Big Bay Boom and Fourth of July Imperial Beach Fireworks Show. The comment does not raise specific issues related to the adequacy of the environmental analysis in the EIR; therefore, no additional response is required.

Response to Comment B-27

The comment states that USFWS's primary concern with fireworks shows is the potential impact on wildlife from fireworks, spectators, and introduction of chemicals and debris into the water. Numerous bird species are located in the vicinity of the fireworks show.

The potential impacts on wildlife associated with fireworks display events are discussed in Section 4.3, *Biological Resources*, of the Draft EIR, including potential impacts on the bird species referred to in the comment.

Response to Comment B-28

The comment states USFWS's concerns that birds in areas close to fireworks shows are likely exposed to noises, vibrations, and light that may disrupt normal breeding and roosting behavior. Several impacts on avian species were discussed including flushing from nests, abandonment, parental attendance, illumination and disturbance may expose habitat. Impacts from spectators of shows was also discussed.

The comment expresses specific concerns that were raised in USFWS's October 6, 2015 letter, which was submitted before preparation of the Draft EIR. These concerns were addressed in Section 4.3, *Biological Resources*, of the Draft EIR.

Response to Comment B-29

The comment states that least tern nests at the San Diego International Airport and Naval Air Station, North Island are located about 1 mile from the Bay launch site. The least tern also nests at the mouth of the Tijuana River about 1.5 south of the Imperial Beach Pier launch site. The snowy plover nests on the beaches to the north and south of the Imperial Beach Pier. The rail occupies the Oneonta Slough, which is about 0.5 mile south of the Imperial Beach Pier launch site.

The comment expresses specific concerns that were raised in USFWS's October 6, 2015 letter, which was submitted before preparation of the Draft EIR. These concerns were addressed in Section 4.3, *Biological Resources*, of the Draft EIR.

Response to Comment B-30

This comment refers to USFWS's October 6, 2015 letter, which recommended several conservation measures for fireworks shows to avoid or minimize impacts on least terns and snowy plovers. The comments states that USFWS appreciates the District's minimization measures and offered comments and suggestions to further reduce potential impacts on the snowy plovers, least terns, and rails.

The comment refers to measures that the District implemented for the 2016 Big Bay Boom Fireworks Display Event. The mitigation measures for the proposed new fireworks display events are identified in Section 4.3, *Biological Resources*, of the Draft EIR.

Response to Comment B-31

The comment refers to measures that the District implemented for the 2016 Big Bay Boom Fireworks Display Event. The mitigation measures for the proposed new fireworks display events are identified in Section 4.3, *Biological Resources*, of the Draft EIR. This comment expresses concern regarding the potential impacts of the Big Bay Boom and Imperial Beach fireworks displays on active least tern nesting sites.

The Big Bay Boom and Imperial Beach fireworks displays are existing events that have occurred annual for many years. As such, they are part of the physical conditions that existed at the time the District commenced preparation of the Draft EIR and are identified in the Draft EIR as part of the environmental setting for the proposed project, not part of the proposed project itself (Draft EIR, Ch. 2, Environmental Setting, pp. 2-5-2-8). CEQA does not require a lead agency to evaluate the potential impacts of existing conditions or to provide mitigation measures for existing environmental conditions. Although not subject to CEQA review, existing fireworks display events like the Big Bay Boom and the Imperial Beach events will be subject to the terms and conditions of the proposed ordinance. Accordingly, no further response is warranted.

Response to Comment B-32

This comment recommends measures to reduce potential impacts on biological resources that may result from the Big Bay Boom and the Imperial Beach fireworks display events. Please see response to comment B-31 above. Although not required by CEQA, the proposed ordinance includes conditions of approval concerning distance of launch sites from sensitive avian species, as well as security and educational measures to minimize trespass into sensitive habitat and disturbance of nesting colonies. The proposed ordinance does not include a condition requiring closure of parking lots because it would conflict with the public access requirements of the California Coastal Act and may inadvertently result in increased trespass related impacts.

Response to Comment B-33

This comment recommends measures to reduce impacts from spectator foot traffic on snowy plover nests on beaches near the Imperial Beach Pier. Please see responses to comments B-31 and B-32 above.

Response to Comment B-34

This comment expresses concern regarding potential impacts of the Imperial Beach fireworks display event on active rail nests in the Oneonta Slough. Please see responses to comments B-31 and B-32 above.

Response to Comment B-35

This comment recommends the District implement security and trash management measures to reduce potential impacts of the Imperial Beach fireworks display event on active rail nests in the Tijuana Slough and at the south end of Sea Coast Drive. Please see responses to comments B-31 and B-32 above.

Response to Comment B-36

This comment describes the benefits of biological monitoring and recommends monitoring least terns and snowy plovers, but does not recommend monitoring of rails due to the potential for disturbance associated with monitoring. The Draft EIR will be revised to include a mitigation measure requiring monitoring with respect to the proposed new fireworks display events (MM-BIO-4). With respect to monitoring of existing fireworks display events, please see responses to comments B-31 and B-32 above.

Response to Comment B-37

This comment recommends a monitoring program for the potential impacts of the Big Bay Boom fireworks display event on the least tern colony at San Diego International Airport. Please see responses to comments B-31 and B-32 above.

Response to Comment B-38

This comment recommends monitoring the least tern colony at the NWR for potential impacts resulting from the Imperial Beach fireworks display event. Please see responses to comments B-31 and B-32 above.

Response to Comment B-39

This comment recommends monitoring of snowy plover nests or broods within 1.5 miles of the launch site for potential impacts resulting from the Imperial Beach fireworks display event. Please see responses to comments B-31 and B-32 above.

Response to Comment B-40

This comment states the author's appreciation for the opportunity to provide recommendations to reduce potential impacts on sensitive wildlife from the Big Bay Boom and Imperial Beach fireworks display events, and requests the District provide a response to the recommendations and a draft monitoring plan by a specified date. Please see responses to comments B-31 and B-32 above.

Response to Comment B-41

This comment indicates that USFWS has reviewed the NOP and Draft EIR for the proposed project. The primary concern and mandate of USFWS is the protection of public fish and wildlife resources and their habitats. This comment states that USFWS appreciates the Districts' efforts to address the cumulative impacts of multiple fireworks displays in the proposed Draft EIR and offers comments and recommendations to assist the District in identifying, avoiding, minimizing, and mitigating direct and indirect project related impacts.

The District appreciates USFWS's interest in the proposed project. This comment does not raise any specific issues requiring a response pursuant to CEQA. The specific comments raised in the pages that follow this introduction are listed separately along with the District's individual responses.

Response to Comment B-42

This comment indicates that the San Diego Bay and Imperial Beach Oceanfront support resident and migratory sea birds, shore birds, passerines, endangered bird species, sea turtles, fish and marine mammals. This comment states that USFWS requests that the Draft EIR include a thorough review of the available literature pertaining to the potential or documented impacts of fireworks displays or similar punctuated disturbances on wildlife.

The Draft EIR includes an in-depth discussion of numerous existing studies that analyzed the effects of fireworks on wildlife, such as migratory sea birds, shore birds, passerines, endangered bird species, sea turtles, fish and marine mammals. As discussed in Section 4.3, *Biological Resources*, of the Draft EIR, an extensive literature review was completed with a focus on effects of fireworks in coastal areas outside of the San Diego region, and the effects of pyrotechnics and loud sounds, in general, on marine resources. The environmental impacts of the project are fully disclosed and any significant adverse impacts on biological resources would be mitigated to less than significant in the Draft EIR. No changes to the Final EIR are required.

Response to Comment B-43

This comment states that USFWS requests that the Draft EIR include the following:

- Figure that depicts the precise location of existing and future proposed launch sites.
- Figure depicting the located of sensitive resource use areas within the vicinity of proposed launch sites
- Figure that depicts the location and abundance of rare, endangered, and other sensitive species that occur in the vicinity of proposed launch sites
- Information regarding the abundance and distribution of water birds that use San Diego Bay, Tijuana Estuary, and Imperial Beach

The proposed launch sites for the fireworks display events are provided on Figure 3-1 in Chapter 3, *Project Description*, of the Draft EIR. The general biological habitats, sensitive habitats, wetlands, and locations of sensitive species of the Bay and Imperial Beach Oceanfront are mapped on Figures 4.3-1 and 4.3-2 of Section 4.3, *Biological Resources*, of the Draft EIR. Figure 4.3-2 specifically depicts the locations of habitat protection areas, marine mammal haul-out areas, sensitive habitats such as eelgrass and coastal salt marsh, and sensitive nesting areas for light-footed Ridgway's rail, Belding's Savannah sparrow, Western snowy plover, and California least tern, as well as a 1-mile buffer around these sensitive nesting areas. The locations of each of these sensitive habitats, wetlands, and sensitive species are mapped in relation to the barge locations for both existing and proposed new fireworks display events. Information regarding the abundance and distribution of water birds within the San Diego Bay is provided on Figure 4.3-2 and discussed in Section 4.3 of the Draft EIR.

Response to Comment B-44

This comment requests that the EIR include detailed information regarding the number, location and duration of baseline events that have occurred in recent years, and the number, location and duration of additional proposed events (events permitted by the District, but have not yet occurred).

As discussed in Chapter 2, *Environmental Setting*, of the Draft EIR, a number of existing fireworks display events occur year-round in and around San Diego Bay and the Pacific Ocean near Imperial

Beach. A list of these fireworks display events, and a description of their operational characteristics, is provided in Tables 2-1 and 2-2 respectively. Chapter 3, *Project Description*, of the Draft EIR provides a detailed project description of the four proposed new fireworks display events would be located adjacent to the National City and Chula Vista Bayfronts.

Response to Comment B-45

This comment requests an analysis of the intensity and extent of light, sound, vibration, and debris/fallout anticipated as a result of the fireworks displays, based on the size and number of fireworks shells that will be used. The analysis of the effects should include an assessment of the areas where light, sound, vibration, and debris are expected to have a direct impact on wildlife.

The Draft EIR included an in-depth discussion of numerous existing studies that analyzed the effects of fireworks on wildlife, including birds and marine mammals. As discussed in Section 4.3, *Biological Resources*, of the Draft EIR, an extensive literature review was completed with a focus on effects of fireworks in coastal areas outside of the San Diego region, and the effects of pyrotechnics and loud sounds, in general, on marine resources. In addition, the impact analysis made use of existing biological information for San Diego Bay, including the San Diego Bay Integrated Natural Resources Management Plan prepared by the U.S. Navy in conjunction with the District. Furthermore, general information was drawn from surveys of the nearshore environment near Imperial Beach Pier, particularly from the 2011–2012 benthic habitat mapping for the U.S. Navy’s Silver Strand Training Complex Boat Lanes (Merkel & Associates, Inc. 2011a, 2012), surveys performed offshore of the Imperial Beach Pier for nearshore beach nourishment (Merkel & Associates, Inc. 2011b), nearshore habitat mapping performed by San Diego Association of Governments (SANDAG 2002; Merkel & Associates, Inc. et al. 2004), studies completed for the Naval Base Coronado Naval Outlying Field in Imperial Beach (Tierra Data 2011; Merkel & Associates, Inc. 2014a), and beach monitoring performed in association with the regional beach nourishment program (Merkel & Associates, Inc. 2014b). The results of these studies and surveys were incorporated into the impact analysis and were used to determine potential impacts related to the proposed project. The environmental impacts of the project are fully disclosed and any significant adverse impacts on biological resources would be mitigated to less than significant in the Draft EIR. No changes to the Final EIR are required.

Response to Comment B-46

This comment requests that the Draft EIR include an analysis of the potential indirect effects of the fireworks displays on wildlife resources including impacts from spectators, changes in water quality associated with debris or fallout from fireworks.

Section 4.3, *Biological Resources*, and Section 4.6, *Hydrology and Water Quality*, of the Draft EIR included an in-depth discussion of indirect effects of the fireworks displays on wildlife resources including impacts from spectators as well as changes in water quality associated with debris or fallout from fireworks. No changes to the Final EIR are required.

Response to Comment B-47

This comment indicates that the Fish and Wildlife Office has previously recommended that no fireworks displays occur within the Chula Vista Bayfront during the avian breeding season due to the close proximity of sensitive wildlife resources. USFWS has recommended that fireworks displays

be minimized at Loews Coronado Resort during avian breeding season due to sensitive habitat at Silver Strand Beach and Naval Base Coronado.

The proposed project includes four new fireworks display events in San Diego Bay adjacent to the National City and Chula Vista Bayfronts. Section 4.3, *Biological Resources*, of the Draft EIR provides an in depth discussion of the existing habitats and wildlife of the Bay and identifies the specific sensitive habitats and species in the vicinity of the proposed locations for the new fireworks display events. The Draft EIR determined that any potential impacts on wildlife resources would be reduced below significance with the implementation of the proposed mitigation measure identified in Section 4.3 of the Draft EIR. All firework display events that will occur along the Chula Vista Bayfront would be required to comply with the Chula Vista Bayfront Master Plan Settlement Agreement dated May 20, 2010.

For that reason the proposed project recommends allowing fireworks display events along the Chula Vista Bayfront within the avian breeding season. The District believes that the mitigation measures identified in Section 4.3 of the Draft EIR, and the conditions of approval of the proposed ordinance would adequately protect sensitive species during the nesting season.

With regard to Loews Coronado, the District agrees with the comments recommendation to minimize fireworks displays at Loew's Coronado resort during the avian breeding season. Fireworks display events at Loews Coronado are not included in the EIR or the proposed ordinance as an existing show that requires a discretionary action or is anticipated to require a discretionary action by the District.

Response to Comment B-48

This comment indicates that the Draft EIR include conservation measures to avoid and minimize the potential impacts on sensitive wildlife. The Carlsbad Fish and Wildlife Office has previously recommended conservation measures be included to existing and ongoing fireworks displays to avoid or minimize potential impacts on nesting least terns and snowy plovers, including:

- Location of discharge site a minimum of 1 mile from nearest least tern or snowy plover nesting site;
- Delineation and law enforcement patrol of shoreline around least tern and snowy plover nesting area to prevent spectators from coming ashore or anchoring in eelgrass;
- Reduction in shell size to reduce the percussive vibrations associated with fireworks detonations;
- Development and implementation of a least tern and snowy plover monitoring approach approved by the Carlsbad Fish and Wildlife Office; and
- Development of a plan to mitigate negative impacts observed by the biologist.

These recommendations are addressed in response to comment B-21.

The recommended conservation measures were previously provided by USFWS in comment letter on the NOP for the proposed project on October 6, 2015. The District considered USFWS's previously recommended conservation measures when preparing the Draft EIR. As detailed in Section 4.3, *Biological Resources*, of the Draft EIR, all potentially significant biological resources impacts would be less than significant with the implementation of mitigation. As originally proposed in Chapter 3, *Project Description*, of the Draft EIR, the proposed barge locations for both the National

City and Chula Vista Bayfront fireworks display events were located a minimum of 1 mile from sensitive nesting colonies. The barge for the proposed Chula Vista Bayfront fireworks display events has been relocated outside of the NWR as suggested by USFWS. As shown on Figure 4.3-1, which has been revised to reflect the relocated barge for the Chula Vista Bayfront fireworks display events, both launch sites for the proposed new fireworks display events are located a minimum of 1 mile from the closest sensitive nesting colonies.

Regarding recommended conservation measure (2), mitigation measure MM-BIO-2 requires the provision of security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during the proposed new fireworks display events. As discussed in Section 4.3 of the Draft EIR, HPD currently assigns units to major patrol areas and deploys additional units on tidelands including bicycle and vessel units during existing fireworks display events (Brick pers. comm.). The landside patrols provide law enforcement within the landside viewing areas, while the special patrol vessels provide law enforcement on the water. Consistent with its current operational practices, HPD would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events. These existing procedures ensure that boating laws are properly enforced in the Bay. The District staff will continue to coordinate with HPD and U.S. Coast Guard, who are responsible for lawful boating practices in the Bay. In addition, MM-BIO-2 in Section 4.3 of the Draft EIR has been updated to include clarifying language to augment landside security patrols with in-water security patrols. This clarifying language is consistent with the analysis provided in the Draft EIR and current best practices. This clarifying language is included in Chapter 3, *Errata and Revisions*, of the Final EIR and is reflected in the project's MMRP.

Regarding recommended conservation measure (3), the maximum shell size allowed for the proposed new displays would be limited to 8 inches, as detailed in Chapter 3, *Project Description*, of the Draft EIR. This represents a reduction of 2 inches from other Fourth of July fireworks display events such as the Big Bay Boom. The 8-inch maximum shell size is consistent with the Fourth of July Imperial Beach Fireworks Show, as discussed in USFWS's letter dated May 6, 2016. In addition, mitigation measure MM-NOI-1 as described in Section 4.8, *Noise and Vibration*, requires that the maximum shell size is limited to 8 inches for any fireworks display event located within 1 mile of sensitive nesting colonies. This would further ensure that noise levels are reduced around sensitive nesting colonies.

Regarding recommended conservation measures (4) and (5), Section 4.3 of the Draft EIR has been updated to include a clarifying mitigation measure (MM-BIO-4) that provides additional assurance that biological impacts would remain less than significant by requiring biological monitoring and reporting specific to the proposed new fireworks display events along the National City and Chula Vista Bayfronts. This measure is provided to ensure the fireworks are carried out as described in Chapter 3, *Project Description*, of the Draft EIR, and to account for any needed adjustments to continue to avoid and minimize impacts on biological resources. This clarifying mitigation measure is included in Chapter 3, *Errata and Revisions*, of the Final EIR and is reflected in the project's MMRP.

Response to Comment B-49

This comment noted that USFWS has requested that the Draft EIR analyze the need for an increased number of fireworks displays. USFWS recommends that the District consider limiting the number of fireworks displays that may occur throughout the year at approved launch sites.

As described in Chapter 3, *Project Description*, of the Draft EIR, the proposed would allow four new fireworks display events would be limited to four times per year, with two displays occurring on the Fourth of July, at the Chula Vista and National City Bayfronts. The proposed project would not increase the number of firework display events beyond these four proposed new events.

Response to Comment B-50

This letter is a comment letter that USFWS submitted to the District on the Draft EIR for the Chula Vista Bayfront Master Plan and Port Master Plan Amendment. The comment letter identifies three references to fireworks and request that impacts related to public access, lighting, noise, and wildlife disturbances, associated with such events should be evaluated in the EIR.

The Final EIR for the Chula Vista Bayfront Master Plan and Port Master Plan Amendment responded to all of the comments raised in this letter (District 2010). All of the issues raised in this comment letter related to fireworks have been addressed in Section 4.3, *Biological Resources*, of the Draft EIR. Consistent with the Chula Vista Bayfront Master Plan EIR, a maximum of three shows are proposed within the Chula Vista Bayfront, which all will occur outside of the least tern nesting season, except the Fourth of July. As identified on page 4.3-45, in accordance with the Chula Vista Bayfront Settlement Agreement and Natural Resources Management Plan (May 2016), proposed new fireworks display events that would occur within the Chula Vista Bayfront area during the least tern nesting season, which would include a Fourth of July event, are required to monitor the nesting colonies and be in full regulatory compliance with all applicable water quality and species protection regulations. All other comments are related to the Chula Vista Bayfront Master Plan and are not applicable to the proposed project. Therefore, no further response to this letter is required.

4.4.3 Comment Letter C: Governor’s Office of Planning and Research, State Clearinghouse and Planning Unit



EDMUND G. BROWN JR.
GOVERNOR May 3, 2017

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

RECEIVED

MAY 08 2017

SAN DIEGO UNIFIED
PORT DISTRICT
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Wileen Manaois
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

Subject: San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
SCH#: 2015081013

Dear Wileen Manaois:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on May 1, 2017. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

C-1

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2015081013) when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

2015081013

late
5/1/17
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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

San Diego National Wildlife Refuge Complex
P.O. Box 2358
Chula Vista, California 91912



In Reply Refer To:
FWS-SDG-15B0320-17CPA0125

May 2, 2017
Sent by Email

Governor's Office of Planning & Research

Ms. Wileen Manaois
Real Estate Development Department
San Diego Unified Port District
3165 Pacific Highway
San Diego, California 92101-1128

MAY 02 2017

STATE CLEARINGHOUSE

Subject: Comments on the San Diego Unified Port District's Draft Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115)

Dear Ms. Manaois:

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced Draft Environmental Impact Report (DEIR) for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (Project), in San Diego County, California. The enclosed comments are based on information provided in the DEIR and the Service's knowledge of sensitive and declining species and their habitats.

The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The Service also owns and operates National Wildlife Refuges (NWR).

For the proposed project, the San Diego Unified Port District (Port) will (1) develop an ordinance establishing a District Code section to govern existing and proposed new fireworks display events within San Diego Bay and the Imperial Beach oceanfront, and (2) support four new fireworks display events in south San Diego Bay adjacent to the National City and Chula Vista Bayfront.

We have previously provided the Port comments on the notice of preparation of the DEIR in letter dated October 6, 2015, as well as recommendations regarding fireworks displays in San Diego Bay in letters dated May 9, 2016, and January 11, 2007, which are attached and incorporated

herein by reference. While the DEIR addresses some of our past comments, many are not adequately addressed.

We have worked with fireworks sponsors, organizers, and operators to develop minimization measures for the federally listed threatened western snowy plover (Pacific Coast population DPS) [*Charadrius nivosus nivosus* (*C. alexandrinus* n.); plover], as well as the endangered California least tern [*Sterna antillarum browni* (*Sterna a. b.*); least tern] and light-footed Ridgway's (=clapper) rail [*Rallus obsoletus* (=longirostris) *levipes*; rail]. In our May 9, 2017, letter, we specifically recommended that fireworks shows be excluded from South San Diego Bay during the nesting season.

However, we continue to have concerns that fireworks conducted in south San Diego Bay will also result in impacts to nesting, roosting, rafting, and foraging seabirds, shorebirds, and waterfowl. Our concerns stem from the proximity of proposed fireworks launch sites in south San Diego Bay to the San Diego Bay NWR (Refuge) which supports thousands of nesting and wintering birds and is subject to low levels of disturbance under baseline conditions. As discussed in the Biological Technical Study (EIR, Appendix F), there is potential for avian behavioral responses to the bright lights, noise, and vibration associated with fireworks. In addition, fireworks events in south San Diego Bay may result in significant spectator presence on and near the Refuge. Due to our concerns regarding the potential direct and indirect effects of a fireworks show, we continue to recommend that fireworks shows do not occur in the vicinity of the Chula Vista Bayfront. We also recommend that the Port consider an alternative that will not introduce night time fireworks disturbance to the vicinity of the Refuge.

Specific Comments:

Chapter 2 – Environmental Setting

1) Fireworks Launch Site for the Proposed National City Fireworks Display

The description of the location for the temporary barge that “would take place within view of Pepper Park,” as described on 2-12 of the draft EIR, appears to be inconsistent with Figure 2-1. The text states the “fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the vicinity of Pepper Park.” This text implies that the barge would be located within the Sweetwater River flood control channel; however, Figure 2-1 indicates that the site would be well to the north of Pepper Park, where there appears to be little or no public access to the waterfront. The location of potential barge sites should be clarified in the document, as the proposed location could have significant, adverse effects on least terns that nest on the D Street Fill. The understanding of the exact locations in which the fireworks displays can occur is further complicated by language provided on page 4.3-5, which states: “The sites for the proposed new fireworks display events are within and/or adjacent to the District’s jurisdiction within San Diego Bay along

the National City and Chula Vista Bayfronts. These proposed new displays are anticipated to occur on barges and/or piers within these locations” (emphasis added). Chapter 2 does not address the potential for the new sites to include pier areas. If the use of piers in addition to barges is being considered for the new sites, the draft EIR should be redistributed to public comment after it has been revised to identify potential pier sites and to address the potential impacts of using those pier sites for fireworks displays.

2) Fireworks Launch Site for the Proposed Chula Vista Bayfront Fireworks Display

Page 2-13 states “A total of three fireworks display events (including one on the Fourth of July) along the Chula Vista Bayfront area ... are anticipated to involve the placement of a single, temporary barge in the Bay in the vicinity of the two parks.” Based on the information provided in Figure 2-1, it appears that the proposed location of this barge occurs within the boundaries of the Refuge. If the barge is to be located within the boundaries of the Refuge, the draft EIR should be revised to acknowledge that the proposal would require a Special Use Permit from the Refuge, as well as compliance with National Environmental Policy Act (NEPA). Additional discussion of this issue is provided below.

Chapter 4, Section 4.3 – Biological Resources

- 1) The habitat information provided in Figure 4.3-1 is incomplete and should be updated to show salt marsh in the western salt ponds, which were restored in 2011. In addition, the D Street Fill and South Bay Salt Works levees should be shown as supporting seabird and shorebird nesting habitat, including least terns and snowy plovers.
- 2) The habitat information provided in Figure 4.3-2 is incomplete and should be updated to include snowy plover habitat at Silver Strand State Beach and the Navy’s proposed alternate least tern nesting site at Naval Air Station, North Island. The polygon(s) depicted in the legend as “Sensitive Nesting Areas 1 mile” will need to be adjusted once the missing nesting habitat is added to the figure.
- 3) The discussion of the San Diego Bay’s subtidal vegetated habitat on page 4.3-7 should also address the importance of this habitat to the bay’s population of eastern Pacific green sea turtles.
- 4) The discussion under *Upland Transition and Upland Areas* on page 4.3-9 should be expanded to acknowledge the significant seabird nesting areas that occur in proximity to the proposed fireworks launch sites. These include the D Street Fill, located immediately south of Pepper Park, which is a mitigation site set aside as nesting habitat for the least tern and snowy plover, and the levees of the South Bay Salt Works that support tens of thousands of nesting waterbirds between the months of March and September. The significance of these nesting areas is highlighted by the fact that in 2016, the San Diego

Bay Refugure is estimated to have supported over 60,000 waterbird nests representing 16 species. The effects of impacts to this number of nesting birds should be evaluated in the effects section.

5) On page 4.3-10, note that the South Bay Salt Ponds are part of the Refuge, and not a separate area.

6) On page 4.3-11, note that the South Bay Salt Works levees and Pond 11 are managed by the Service, not the District.

7) Table 4.3-2 inaccurately states that eastern Pacific green sea turtle have a low potential to occur in San Diego Bay. Researchers continue to tag and monitor green sea turtles in San Diego Bay (Madrak *et al.* 2016), particularly in the south end of the Bay. In addition, norther harriers are routinely observed at Sweetwater Marsh and in the south bay, therefore, they have a high potential to occur in the affected area.

8) As addressed previously, the location proposed as a fireworks launch site for the Chula Vista Bayfront appears to be located within the boundaries of the Refuge; therefore, the discussion of applicable laws and regulations related to the Refuge on Page 4.3-19 should be expanded to address Federal regulations related to uses on a NWR. Uses on a NWR require compliance with the National Wildlife Refuge System (NWRS) Administration Act of 1966 as amended by the NWRS Improvement Act of 1997, 16 U.S.C. 668dd-668ee (Improvement Act) and the National Environmental Policy Act (NEPA).

The Improvement Act provides clear standards for management, use, planning, and growth of the NWRS. The Improvement Act requires that each refuge be managed to fulfill the “wildlife first” mission of the NWRS, as well as the specific purposes for which a refuge was established. The Refuge was established to protect, manage, and restore habitats for federally listed endangered and threatened species and migratory birds, as described in the Act, and maintain and enhance the biological diversity of native plants and animals, as described in the Fish and Wildlife Act of 1956, as amended.

In accordance with the Improvement Act, uses permitted on a NWR must be determined to be compatible with the mission of the NWRS and Refuge purposes. The Service’s Appropriate Use Policy (*Service Manual, Part 603 FW 1*) provides a national framework for determining appropriate refuge uses and outlines the procedures refuge managers must follow when deciding if a new or existing use is an appropriate use on the refuge. The proposed use must contribute to the public’s understanding and appreciation of the refuge’s natural or cultural resources, or must be beneficial to the refuge’s natural or cultural resources. If this is not the case, such a use would generally be considered not appropriate.

If a use is determined to be appropriate, it must then be evaluated for compatibility. The Service's Compatibility Policy (*Service Manual, Part 603 FW 2*) includes guidelines for determining if a use proposed is compatible with Refuge purposes. A compatible use is defined in the policy as a proposed or existing use of a NWR that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the NWRS mission or the purposes for which the Refuge was established.

Another significant directive of the Improvement Act is to ensure that we maintain the ecological integrity of the NWRS for present and future generations of Americans. Uses that we reasonably may anticipate to conflict with pursuing this directive are contrary to fulfilling the NWRS mission and are therefore not compatible. Under the authorities of the Improvement Act, fireworks displays conducted on a NWR would not represent an appropriate or compatible use of Refuge lands. As such, a Refuge Special Use Permit to allow such events could not be issued.

9) If there is the potential for a barge to be sited within Sweetwater River flood control channel in the vicinity of Pepper Park or for the fireworks launch site for the National City and/or Chula Vista Bayfront to be located somewhere other than the location shown in Figure 2-1, the discussion of impacts to birds and listed species should be expanded. This is particularly important because of the potential for significant adverse effects to sensitive salt marsh habitat, nesting least terns, and resident rails as a result of siting the fireworks barge in the Sweetwater River channel or in proximity to the outer levees of the salt works.

10) The proposed mitigation measures, particularly those intended to minimize indirect impacts related to human disturbance of nesting areas, are inadequate as they only address public viewing areas. The areas that would be affected include open water areas, and areas that are not open to the public, but would be subject to unauthorized access as a result of the proposed action.

11) There is no monitoring proposed to determine if the measures included in the DEIR for mitigating both direct and indirect impacts are being implemented and/or are effective in avoiding and minimizing impact to nesting least terns, snowy plovers and rails. The DEIR should include requirements for monitoring to assess the initial response and overall effects to nesting success on these species.

12) The DEIR should characterize the difference in ambient night time disturbance levels at nest sites in north San Diego Bay and the nest sites at the Refuge. The DEIR should distinguish between the baseline conditions at these sites.

13) Appendix F of the DEIR discusses previous fireworks monitoring efforts at (1) a north San Diego Bay least tern colony (San Diego International Airport; Airport), (2) at Naval Base Coronado, (3) at Gualala Point, and (4) in the Netherlands. Although the

results from these studies demonstrate that individual birds are likely to display a direct physiological stress response, Appendix F (re-iterated in section 4.3) concludes that “it does not appear that the level of disturbance stress generated from the fireworks translate to a level achieving harassment or harm for avian species”. This conclusion is not consistent with the result of the Gualala Point study, which concluded that nests had been abandoned as a result of the fireworks display. Nest abandonment and likely chick mortality was also documented subsequent to the Big Bay Boom in 2012, when a malfunction resulted in the detonation of all of the fireworks in a short period (Patton 2012, pers. comm.). Based on the nesting chronology of the least tern, western snowy plover, and rail, it is likely that there will be active nests and adults brooding dependent chicks during the proposed 4th of July event. Although we agree that it is difficult to quantify the number or extent of impacts, we remain concerned that individual nests or chicks may be abandoned due to the night time disturbance, or chicks may flee into harm’s way, particularly since the Refuge sites are not subject to night time disturbances under baseline conditions. For example, least tern habitat at the Refuge is subject to less night time disturbance than least tern habitat at the Airport. The monitoring reports from the Airport nest site state “colonies elsewhere with less habituation to noises would be expected to react more than those at the airport, and the observed flushing of adults, fledglings, and running of chicks in response to the fireworks confirm fears of possible threat of fledglings relocating to roost in active roadways, taxiways or runway following dispersal due to fireworks.” Therefore, we anticipate that the response of avian species at the Refuge will be greater than that observed at the Airport and Naval Base Coronado.

14) The DEIR should include conservation measures to avoid and minimize the potential impacts of the Project on sensitive wildlife. The Carlsbad Fish and Wildlife Office (CFWO) has previously recommended conservation measures be included to existing and ongoing fireworks displays specifically to avoid and/or minimize potential impacts to nesting least terns and snowy plovers, including: (1) Location of discharge sites for fireworks as far away as possible (minimum of 1 mile) from the nearest least tern or snowy plover nesting site; (2) Delineation and law enforcement patrol of shoreline around least tern and snowy plover nesting areas to prevent spectators from coming ashore or anchoring in eelgrass beds; (3) Reduction in shell size to reduce the percussive vibrations associated with fireworks detonations; (4) Development and implementation of a least tern, snowy plover and rail monitoring approach approved by the CFWO; and (5) Development of a plan to mitigate any negative impacts (to least terns, snowy plovers and rails) observed by the monitoring biologist.

The DEIR should discuss the occurrence and location of rafting bird species during the non-breeding season, the anticipated footprint of increased boat traffic, and the likely impacts of increased boat traffic on rafting birds in south San Diego Bay. In addition, the DEIR should specify minimization measures to reduce the impacts of increased boat traffic on rafting birds.

Ms. Wileen Manaos (FWS-SDG-15B0320-17CPA0125)

7

Thank you for the opportunity to comment on the DEIR. We request a meeting with the Port to go over our comments and concerns regarding the Project.

If you have any questions regarding this letter, please contact Sandy Vissman of the Carlsbad Fish and Wildlife Office at (760) 431-9440 or Brian Collins of the San Diego National Wildlife Refuge at (619) 575-2704.

Sincerely,



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Date: 2017.05.02 15:43:19 -07'00'

**ANDREW
YUEN**

Digitally signed by
ANDREW YUEN
Date: 2017.05.02
16:18:25 -07'00'

Karen A. Goebel
Assistant Field Supervisor
Carlsbad Fish and Wildlife Office

Andrew Yuen
Project Leader
San Diego National Wildlife Refuge Complex

Enclosure

LITERATURE CITED

Personal Communication

Patton, R. 2012. Email distribution of monitoring results from July 4, 2012. Least tern monitoring at San Diego International Airport. 1 page.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008



In Reply Refer To:
FWS-SDG-15B0320-16CPA0275

MAY 09 2016

Eileen Maher
Principal, Environmental Conservation
San Diego Unified Port District
3165 Pacific Highway
San Diego, California 92101

Subject: San Diego Bay and Imperial Beach Fireworks Shows on July 4, 2016

Dear Ms. Maher:

This letter responds to your request for guidance from the U.S. Fish and Wildlife Service (Service) to reduce potential impacts to sensitive wildlife from the San Diego Bay (Big Bay Boom) and Imperial Beach (IB) fireworks shows on July 4, 2016, funded by the Port of San Diego (Port). We appreciate your efforts to incorporate measures that address wildlife concerns into the 2016 fireworks shows, as the primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States, and is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). We previously provided comments on the Port's Notice of Preparation of a Draft Environmental Impact Report for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115)(DEIR)(Port 2015) in our letter dated October 6, 2015 (FWS-SDG-15B0320-15CPA0334)(Service 2015).

We are pleased that, consistent with recommendations in our October 6, 2015, letter, no fireworks shows are proposed at the Chula Vista Bayfront or Loew's Coronado Resort. Due to their close proximity to sensitive wildlife, including the federally listed threatened western snowy plover (*Charadrius nivosus nivosus*; snowy plover), as well as the endangered California least tern [*Sterna antillarum brownii* (*Sterna a. b.*); least tern] and light-footed Ridgway's (=clapper) rail [*Rallus obsoletus* (=longirostris) *levipes*; rail] nesting sites, we recommend that the Chula Vista Bayfront and Loew's Coronado Resort be excluded from future fireworks shows during the nesting season.

The Big Bay Boom and IB fireworks shows will occur in north San Diego Bay (Bay) and IB in the same locations as previous shows. Both shows will last 18 minutes, and be launched from four barges in the north Bay and from the IB Pier. Shells launched within the Bay would be a

maximum of 10-inch shells, and those launched from the IB Pier would be a maximum of 8-inch shells.

As outlined in our October 6, 2015, letter, our primary concern with fireworks shows is the potential impact to wildlife from the fireworks, spectators, and introduction of harmful chemicals and debris into the water. Numerous birds species, including the snowy plover, least tern and Ridgway's rail, use wetlands, shoreline habitats, and/or open water of the Bay and Pacific Ocean in the vicinity of the proposed fireworks shows.

Birds in areas close to fireworks shows are likely to be exposed to the explosive noises, vibrations, and bright flashes of light which may disrupt normal breeding and roosting behavior. Potential avian responses to fireworks include flushing from nests and nest abandonment (Stephensen *et al.* 2012; Weigand and McChesney 2008; Patton 2012, 2013, 2015), although these responses are not always observed (Heinz 2013; Elliott 2014). Reduced avian parental attendance from flushing exposes eggs and/or chicks to night time air temperatures and predators, and may result in changes in hatchability/survivorship depending upon variables such as the length of parental absence, temperature, and predator presence. Illumination and disturbance from fireworks may result in increased visibility of birds, eggs or chicks to predators, particularly in exposed habitat. In addition, spectators of the fireworks shows may disturb or harm breeding or roosting birds, eggs, or chicks (Caffree 1993). Spectator boats traveling within the Bay at night may disturb or collide with rafting birds. Spectators may also leave trash and food waste, which can attract potential predators to sensitive areas. Fireworks launched over water deposit debris and chemical constituents of expended shells into the water, which could indirectly affect birds.

The least tern nests at the San Diego International Airport (SDIA) and Naval Air Station, North Island (NASNI) about 1 mile from Bay launch site. The least tern also nests at the mouth of the Tijuana River in the Tijuana Slough National Wildlife Refuge (Refuge) about 1.5 miles south of the IB Pier launch site. The snowy plover nests on the beaches to the north and south of the IB Pier. Nest distribution shifts from year to year, and in 2014, two snowy plover nests were initiated less than 1 mile north and south of the IB Pier launch site (Navy 2015; Patton 2015, pers. comm.). The rail occupies the Oneonta Slough, within the Refuge, about 0.5 mile south of the IB Pier launch site. Recent monitoring estimated 127 rail pairs in the slough in 2016 (Collins 2016, pers. comm.).

Our October 6, 2015, letter recommended several conservation measures for fireworks shows to avoid and/or minimize potential impacts to least terns and snowy plovers. Consistent with our recommendations, the Port proposes to implement the following measures: 1) locating launch sites greater than 1 mile from least tern nesting sites; 2) installing signs to prevent trespass into the Refuge; 3) limiting maximum shell size to 10 inches in the Bay, and 8 inches at IB Pier; 4) limiting show length at 18 minutes; 5) picking up floating and shoreline debris after the event; 6) monitoring least tern nesting at the SDIA; and 7) monitoring water quality after the event in compliance with the Regional Water Quality Control Board fireworks permit. We appreciate the

Port's proposed minimization measures and offer the following comments and suggestions to further reduce the potential for impacts to snowy plovers, least terns, and rails.

Active least tern nests, chicks and adults will likely be present at the SDIA, NASNI and Refuge nesting sites during the fireworks shows. Based on the baseline level of disturbance at these sites and the results of previous monitoring, we anticipate that the Big Bay Boom fireworks show will temporarily disrupt least tern nesting and roosting at SDIA and NASNI (Patton 2013), and will temporarily separate parents from flightless chicks. Spectators that view the Big Bay Boom from the parking lot adjacent to SDIA Oval O-3S could also disrupt or harm nesting or roosting terns. The least tern nesting site at the Refuge was not monitored during past fireworks shows and we do not have information regarding the response of this colony to fireworks. However, due to the greater distance from the launch site (i.e., 1.5 miles) and smaller shell size (i.e., 8-inch) we expect the fireworks show at IB to disrupt least tern nesting to a lesser degree than at SDIA. However, spectators that view the IB show from the beach south of Sea Coast Drive could disrupt or harm nesting or roosting terns at the mouth of the Tijuana River.

While the current proposed launch locations are consistent with our recommendation that launch sites be at least 1 mile from nest sites, we note that least terns nesting at SDIA (about 1 mile from the Bay launch site) were observed to flush from nests during past Big Bay Boom fireworks shows (Patton 2012, 2013, 2015). A firework study conducted in San Francisco Bay detected no least tern flushing from nests when fireworks were launched about 2 miles from the colony (Elliott 2014). Therefore, we recommend that the Port increase the distance between the least tern colonies and the Big Bay Boom launch sites as much as possible to reduce the disturbance to a level that does not result in least tern flushing. To reduce the potential for spectator disturbance at the SDIA nesting site, we recommend that the Port close the parking lot that lies adjacent to nesting oval O3-S on July 4. To reduce the potential for spectator disturbance at the Refuge nesting site, we recommend that the Port coordinate with the City of IB and the Refuge staff to assure that, in addition to signage, adequate enforcement personnel are present south of IB Pier to prevent spectators from entering into the nesting site. Specifically, we recommend that a uniformed enforcement agent be stationed at the south end of Sea Coast Drive on the evening of July 4.

Active snowy plover nests, chicks and adults will likely be present on the beaches to the north and south of the IB Pier during the IB fireworks show. We recommend that the Port coordinate with the City of IB and Refuge to assure that signage and enforcement presence is in place to the north of the IB Pier, as well as to the south (recommended above to protect least terns), to reduce spectator foot traffic in snowy plover nesting habitat. Specifically, we recommend that a uniformed enforcement agent be stationed at the Navy's "Camp Surf" on the evening of July 4.

It is likely that Oneonta Slough will support active rail nests, chicks, and adults during the IB fireworks show. We anticipate disturbance to rails, given the close proximity of the IB Pier launch site, and encourage the Port to offset disturbance by contributing to the efforts to improve rail habitat, maintain water quality, reduce human and pet disturbance, and open the mouth of the Tijuana Estuary consistent with the Light-footed Clapper Rail Recovery Plan (Service 1985).

The Port proposes to deploy “No Trespass” signs to reduce the potential for unintended spectator impacts to rail nesting. We also recommend that the Port coordinate with the City of IB and the Refuge staff to assure that adequate enforcement is present to prevent spectators from entering into the Tijuana Slough nesting site. Specifically, we recommend that a uniformed enforcement agent be stationed at the south end of Sea Coast Drive on the evening of July 4 (as recommended above in reference to least tern and snowy plover protection). In addition, we recommend that the Port clean up any trash or food waste left by spectators near least tern, snowy plover and rail nesting sites.

Biological monitoring during anthropogenic activities such as fireworks shows can provide valuable information that increases our understanding of wildlife response to potential disturbance. Information obtained during monitoring may assist in assessment of effects of future activities, and can also help us to refine minimization measures. Biological monitoring during night time activities, such as fireworks shows, presents unique challenges since observations are compromised by lack of light and nocturnal disturbance from the monitoring itself may impact birds. Monitoring nest sites before and after disturbance events can also aid in assessment of impacts, particularly in situations where night time monitoring is problematic. We recommend monitoring of least terns and snowy plovers, as described below, however we do not recommend monitoring of rails at this time due to the potential for disturbance associated with monitoring (Zemba 2016, pers. comm.).

The Port proposes to monitor the least tern colony at SDIA, and we recommend that, similar to previous years, monitoring occur on the following dates and times: July 3 and July 4, 1 hour before, during, and 1 hour after the time of the fireworks show; and July 5, early in the morning. Monitoring should include assessment of nest attendance (or abandonment), and estimates of adult, chick, and fledgling numbers and behavior, including any observed responses to fireworks shells. We recommend that the Port also coordinate with the Navy regarding comparable least tern monitoring at NASNI. We also recommend that the noise and vibration be monitored at SDIA and NASNI. Reporting should include the noise and vibration levels before and during the fireworks show; the location of the night roosts (if possible); observations of spectator disturbance; observations of least tern response to fireworks and spectators; estimated number of adult least terns, active nests, and chicks onsite before and after the fireworks show; and any evidence of harm to least terns.

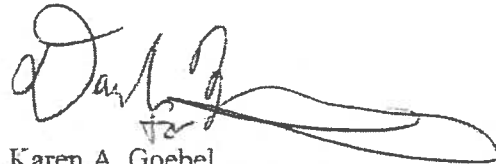
We recommend that the least tern nesting colony at the Refuge be monitored on July 4 prior to the event, and in the morning on July 5 to assess colony attendance and estimate the number of active nests and chicks present onsite. Reporting should include the location of roosting/nesting area(s) and the estimated number of adult least terns, active nests, fledglings, and chicks onsite, and any observations of nest disturbance or harm to least terns.

No snowy plover monitoring has been proposed by the Port, however we recommend that the Port coordinate with the Refuge and Navy to determine if active snowy plover nests or broods lie within 1.5 miles of the IB Pier launch site on July 3. If active nests or broods occur within this area, we recommend monitoring on July 4 and 5 to assess nest activity and brood presence

before and after the fireworks display. Reporting should include the location of nests and broods, the number of active nests, chicks and adults onsite, and any observations of nest disturbance or harm to snowy plovers.

We appreciate the opportunity to provide recommendations to reduce potential impacts to sensitive wildlife from the Big Bay Boom and IB fireworks shows. Results from our recommended monitoring should aid the preparation of the DEIR for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project. We request that the Port provide a response to our recommendations and a draft monitoring plan for our review by June 1, 2016, and a monitoring report by September 15, 2016. Should you have any questions regarding this letter or need further assistance, please contact Sandy Vissman at (760) 431-9440, extension 274.

Sincerely,

A handwritten signature in black ink, appearing to read 'Karen A. Goebel', with a long, sweeping horizontal flourish extending to the right.

Karen A. Goebel
Assistant Field Supervisor

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

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In Reply Refer To:
FWS-SDG-15B0320-15CPA0334

OCT 06 2015

Mr. Jason H. Giffen
Director, Environmental Land Use and Management
San Diego Unified Port District
P.O. Box 120488
San Diego, California 92112-0488

Subject: Comments on the Notice of Preparation of a Draft Environmental Impact Report for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115), in San Diego County, California

Dear Mr. Giffen:

The U.S. Fish and Wildlife Service (Service) has reviewed the Notice of Preparation of a Draft Environmental Impact Report (EIR) for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (NOP). The NOP describes the proposed project and was distributed to the Service to request guidance regarding the scope and content of the environmental information to be included in the EIR. The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

The proposed Project involves continued permitting of ongoing and proposed fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront in San Diego County, California. Current fireworks display events include the "Big Bay Boom" and other smaller events operated by the San Diego Unified Port District's (District's) tenants. Proposed fireworks displays include fireworks on the Chula Vista Bayfront. Fireworks are detonated from flight decks, barges, and/or piers located adjacent to, or in the waters of San Diego Bay or the Imperial Beach Oceanfront. The District estimates that at this time approximately 50 fireworks displays are permitted per year, and anticipates that firework displays within the Project Area are likely to increase at a rate of 2 percent per year. Fireworks displays currently occur year-round, with a duration ranging from 5-20 minutes. Existing events occur at South Embarcadero, North Embarcadero, near Shelter Island, near Harbor Island, Glorietta Bay, and Imperial Beach Oceanfront.

We appreciate the efforts of the District to address the cumulative impacts of multiple fireworks displays in the proposed DEIR, and offer the following comments and recommendations to assist the District in identifying, avoiding, minimizing, and adequately mitigating direct and indirect project-related impacts to fish and wildlife resources, including Endangered and Threatened species:

1. San Diego Bay and the Imperial Beach Oceanfront, including the vicinity of some launch and viewing sites, support resident and migratory sea birds, shore birds, passerines, endangered bird species, sea turtles, fish, and marine mammals. Significant populations of birds use portions of San Diego Bay year round: during the summer months thousands of birds nest, breed, and raise young, particularly in south San Diego Bay; and during the winter months, thousands of migrating or wintering waterfowl take refuge in the Bay. Fireworks displays include significant levels of light, noise, and vibration known in some instances to result in temporary disturbance to wildlife (Patton 2013; Sandoval 2005). Fireworks may also disrupt roosting and exacerbate predation pressure (Caffree 1994). If launched over or near the water, displays may deposit residual debris and chemical constituents into the water and thereby affect water quality (San Diego Regional Water Quality Control Board 2011). Please include in the DEIR a thorough review of the available literature pertaining to the potential or documented impacts of fireworks displays or similar punctuated disturbances on wildlife.
2. To facilitate assessment of the environmental effects of the proposed action, we recommend that the DEIR include: 1) a figure that depicts the precise location of existing and future proposed launch sites; 2) a figure depicting the location of sensitive resource use areas within the vicinity of proposed launch sites (including, but not limited to, Sweetwater National Wildlife Refuge, Chula Vista Wildlife Reserve, South San Diego Bay Unit of San Diego National Wildlife Refuge, San Diego International Airport Least Tern Nesting Area, Naval Base Coronado Delta Beaches, Naval Base Coronado “heron park”, Tijuana National Wildlife Refuge, marine mammal haul out areas); 3) a figure that depicts the location and abundance of rare, endangered, and other sensitive species that occur in the vicinity of proposed launch sites (including, but not limited to, federally threatened Western snowy plover (*Charadrius nivosus nivosus*, snowy plover), federally endangered California least tern (*Sternula antillarum browni*, least tern), federally endangered Light-footed clapper rail, recently reclassified as “Ridgeway’s rail” (*Rallus longirostris levipes*, clapper rail), Belding’s Savannah sparrow (*Passerculus sandwichensis beldingi*, Savannah sparrow), American Peregrine falcon (*Falco peregrinus anatum*, peregrine falcon), gull-billed tern (*Gelochelidon nilotica*)); 4) information regarding the abundance and distribution of water birds use San Diego Bay, Tijuana Estuary, and Imperial Beach (for example, information available from San Diego Bay bird surveys supported by the U.S. Navy and the District, annual San Diego Shorebird Survey, and San Diego National Wildlife Refuge bird surveys).

3. Please include in the DEIR detailed information regarding the number, location, and duration of baseline events that have occurred in recent years, and the number, location, and duration of additional proposed events (i.e. events that have been permitted by the District, but have not yet occurred).
4. The DEIR should include an analysis of the intensity and extent of light, sound, vibration, and debris/fallout anticipated as a result of the fireworks displays, based on the size and number of fireworks shells that will be used. The analysis of the effects of the proposed action should include an assessment of the areas where light, sound, vibration, and debris are expected to have a direct impact on wildlife.
5. The DEIR should include an analysis of the potential indirect effects of the fireworks displays on wildlife resources in the Project Area. Potential indirect effects of fireworks displays include, but are not limited to: disturbance or impacts to resources from spectators, changes in water quality associated with debris or fallout from fireworks.
6. The Carlsbad Fish and Wildlife Office has previously recommended, and continues to recommend that the no fireworks displays occur within the Chula Vista Bayfront during the avian breeding season (generally January-September) due to the close proximity to the abundance of sensitive wildlife resources that occur within and around the Sweetwater National Wildlife Refuge, the South San Diego Bay National Wildlife Refuge (Wildlife Refuges), and the Chula Vista Wildlife Reserve. Similarly, we have recommended and continue to recommend that fireworks displays be minimized at the Loew's Coronado Resort during the avian breeding season due to the proximity of this hotel to protected least tern and snowy plover habitat at Silver Strand State Beach and Naval Base Coronado.
7. The DEIR should include conservation measures to avoid and minimize the potential impacts of the Project on sensitive wildlife. The Carlsbad Fish and Wildlife Office has previously recommended conservation measures be included to existing and ongoing fireworks displays specifically to avoid and/or minimize potential impacts to nesting least terns and snowy plovers, including: 1) Location of discharge sites for fireworks as far away as possible (minimum of 1 mile) from the nearest least tern or snowy plover nesting site; 2) Delineation and law enforcement patrol of shoreline around least tern and snowy plover nesting areas to prevent spectators from coming ashore or anchoring in eelgrass beds; 3) Reduction in shell size to reduce the percussive vibrations associated with fireworks detonations; 4) Development and implementation of a least tern and snowy plover monitoring approach approved by the CFWO; 5) Development of a plan to mitigate any negative impacts (to least terns and snowy plovers) observed by the monitoring biologist.

8. The District estimates that fireworks displays may increase approximately 2 percent per year. The DEIR should analyze the need for an increased number of fireworks displays. We recommend that the District consider limiting the number of fireworks displays that may occur throughout the year at approved launch sites.

We appreciate the opportunity to provide comments on this NOP. Should you have any questions regarding this letter, please contact Sandy Vissman of my staff at (760) 431-9440.

Sincerely,



for: Karen A. Goebel
Assistant Field Supervisor

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In Reply Refer To:
FWS-SDG-3978.4

Jan 11 2007

Mr. Ralph Hicks
Director, Land Use Planning
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92112-0488

Subject: Comments on the Draft Environmental Impact Report for the Chula Vista Bayfront Master Plan and Port Master Plan Amendment, City of Chula Vista, California (SCH #2005081077)

Dear Mr. Hicks,

The U.S. Fish and Wildlife Service (Service) and California Department of Fish and Game (Department) (collectively referred to as 'Wildlife Agencies') have reviewed the above-referenced draft Environmental Impact Report (DEIR) and supporting documentation for the Chula Vista Bayfront Master Plan and Port Master Plan Amendment (Proposed Project), dated September 29, 2006. The public review period for the DEIR ends January 11, 2007. The comments provided in this letter represent our concerns about the Proposed Project's potential impacts on sensitive biological resources.

The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Endangered Species Act (16 U.S.C. 1531 *et seq.*). The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA) Guidelines, Sections 15386 and 15381, respectively. The Department is responsible for the conservation, protection, and management of the state's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act and other sections of the Fish and Game Code, and administers the Natural Community Conservation Planning (NCCP) program.

The 562-acre Chula Vista Bayfront (Bayfront) is located on the southeastern edge of San Diego Bay in the City of Chula Vista. The subject planning area shares a common border with the Sweetwater Marsh Unit of the San Diego Bay NWR at its northern boundary and the South San Diego Bay Unit of the San Diego Bay NWR at its southern boundary. In 2002, the San Diego Unified Port District (Port) and the City of Chula Vista (City) joined together to prepare a master



plan for the Bayfront, which includes approximately 500 acres of land area and 62 acres of water area. Proposed uses include hotel, retail, entertainment, conference center, office, residential, civic/cultural, marina and ferry terminal, recreation, parkland, environmental buffers, a public pier, and associated public facilities such as streets, bikeways, pedestrian paths, and parking structures. Key components of the Proposed Project described in the DEIR include:

- A resort conference center and other hotels with a maximum height limit of 300 feet (25 stories);
- Up to 2,000 residential units with a maximum height limit that ranges from 300 feet in the Harbor District to 200 feet in the Otay District;
- Mixed use office and commercial recreation uses with maximum allowable heights ranging from 85 to 200 feet in the Harbor District and 40 to 100 feet in the Sweetwater District;
- Waterfront retail uses and public gathering spaces around the harbor;
- A new commercial harbor, ferry terminal, and realigned navigation channel;
- A 21-acre public park and other open space areas;
- A public promenade and bike trail through the entire Bayfront;
- A new traffic circulation system, storm water system, and the installation of various other public services and facilities to serve the proposed uses; and
- The relocation of the existing power plant to the southern end of the planning area.

The master planning area has been divided into three districts: the northern 129-acre Sweetwater District; the central 280-acre Harbor District; and the southern 153-acre Otay District. Development within the planning area would occur in three phases over an approximately 25-year period. Construction of Phase I is proposed to begin upon project approval and conclude approximately six years later. Phase I components would be concentrated in the Harbor and Sweetwater Districts. Phase II construction would be completed approximately five years after the completion of Phase I and Phase III is expected to be completed approximately 13 years after the completion of Phase II.

As the master plan represents a joint planning effort covering a large area of land and water, a number of jurisdictional issues must be addressed and resolved. The Port currently has jurisdiction over much of the land and water areas, while the City currently exercises jurisdiction over some of the inland portions of the planning area. The Proposed Project includes a land exchange between the Port and a private developer. This land exchange would include the transfer of up to 97 acres of land in the Sweetwater District from a private developer to the Port, in exchange for up to 57 acres of land in the Harbor and Otay Districts from the Port to the private developer. In association with this exchange, lands currently designated for residential use in the Sweetwater District would be redesignated for uses permitted on State tidelands and areas in the Harbor and Otay District would be redesignated to allow for residential development.

The DEIR also addresses the following Project-related actions: an amendment to the Port Master Plan; a coastal development permit for those portions of the project that would occur within the Port's jurisdiction; an amendment to the City's Bayfront Area Plan of the General Plan; amendments to the City's Local Coastal Program, Bayfront Specific Plan, and Bayfront/Town Centre 1 Redevelopment Plan; approval of a dredging permit from the State Lands Commission

in order to realign the existing navigation channel in San Diego Bay; and issuance of permits from the U.S. Army Corps of Engineers, the Department, and the Regional Water Quality Control Board.

The Department and the Service previously commented on the Notice of Preparation (NOP, SCH# 2002081116) for the Bayfront Village Project that was restricted to the 128-acre area currently included in the Sweetwater District. The Department commented in a letter dated September 24, 2002, and the Service provided a similar letter, dated September 19, 2002. The Wildlife Agencies also commented on the NOP for the Proposed Project in a letter dated September 12, 2005. The Service also provided a letter to the Port and City, dated April 22, 2004, that emphasized the importance of the habitats in the south end of San Diego Bay and the need for the Proposed Project to adequately protect the south bay's locally, regionally, and globally important natural resources. We appreciate that, relative to the project previously proposed in 2002, it appears that the currently Proposed Project would result in considerably adverse biological impacts within the Sweetwater District. However, considering the overall intensity of the larger project proposal, we retain many of the concerns that we raised in our previous letters. All of our comments in past letters also apply to the Proposed Project, as described in the DEIR dated September 2006.

A summary of the Wildlife Agencies' primary comments and concerns about the DEIR follows. We are disappointed that the DEIR provides no or inadequate analysis of, and mitigation for, many of the biological impacts about which we previously provided (in letters and electronic mail to, and meetings with, the Port) substantive comments and recommendations, and requested the DEIR thoroughly address. We request a meeting with the Port, the City, and stakeholders to further discuss the Proposed Project and our comments, after we have had an opportunity to review the responses to our comments, and prior to the Port's decision as to whether to revise and recirculate the DEIR (comment 2 below), or well in advance of the Board of Port Commissioners' consideration of the DEIR for certification.

1. The Wildlife Agencies do not concur with the DEIR that significant impacts to biological resources and wetlands have been minimized to a level less than significant (Section 4.8.7). The DEIR does not adequately evaluate all project impacts to biological resources, even at a programmatic level, and the full range of mitigation measures needed to reduce potential impacts to a level less than significant are either not addressed or, in some instances where measures are addressed, future implementation of the measures cannot be assured. We strongly urge the Port to (a) revise the DEIR to adequately identify and analyze the Proposed Project's biological impacts addressed in this comment letter, and to provide appropriate mitigation for the impacts, and (b) to recirculate the revised DEIR for public review and comment.
2. The Wildlife Agencies support a land exchange that eliminates or minimizes the possibility of residential development and its associated direct and indirect impacts to on-site and adjacent sensitive biological resources. We therefore recommend that the Proposed Project be modified to incorporate certain components of both the Modified Land Exchange and the Harbor Park Alternative, as specified in our detailed comments in the Enclosure. We do not support the inclusion of a 2,000 to 5,000 seat amphitheater on

parcel HP-1, which is proposed as part of the Harbor Park alternative, because it would increase disturbance to wildlife that roost and nest within and/or in the vicinity of the project site.

3. Based on information available regarding the Proposed Project, we are especially concerned about its potential direct and indirect impacts to: (a) intertidal wetlands (*e.g.*, Sweetwater Marsh, F&G Street Marsh, J Street Marsh, and the mudflats located north of the Harbor District) and their associated federally and state-listed plant and wildlife species, including the light-footed clapper rail (*Rallus longirostris levipes*) and Belding's savannah sparrow (*Passerculus sandwichensis beldingi*); (b) subtidal bay habitats and their associated fisheries resources, eelgrass beds, and migratory bird foraging and rafting areas; (c) migratory birds, including those birds identified by the Service as Birds of Conservation Concern, that rely on the south San Diego Bay for foraging and resting areas during migration along the Pacific Flyway; (d) colonial nesting seabirds such as the federally and state-listed California least tern (*Sterna antillarum browni*) and federally listed western snowy plover (*Charadrius alexandrinus nivosus*), shorebirds, and waterfowl that nest in proximity to the project site; and (e) species covered by the City's Multiple Species Conservation Program (MSCP) Subarea Plan.
4. The level of detail provided in the DEIR for specific project design, potential project impacts, and appropriate mitigation measures for the Phase I projects is not sufficient to allow adequate project-specific review under CEQA. Therefore, the analyses provided throughout the DEIR should be considered programmatic.
5. Portions of the Proposed Project and lands adjacent thereto are subject to the standards laid out in the City MSCP Subarea Plan. Since the Port does not have a habitat conservation plan/NCCP to guide its development projects, the entire project should meet or exceed the mitigation ratios, guidelines, and standards required by the City's MSCP Subarea Plan to maintain consistency with its application to the on-site and adjacent areas within Plan.
6. The DEIR does not identify the Proposed Project's many indirect impacts to adjacent sensitive habitats and sensitive species located therein, nor does it propose adequate measures to mitigate such impacts. Such indirect impacts, otherwise known as "edge effects," include increased predation, increased disturbances to wildlife, bird strikes and disorientation, shading of adjacent habitat, human encroachment, increased noise, increased illumination, and detrimental changes to hydrology and water quality. A fenced minimum 100-foot wide "no-touch" habitat buffer should be provided around all sensitive habitats, including mitigation habitats, to minimize indirect impacts. Degradation of habitats due to unavoidable indirect impacts should be mitigated, in part, through creation or restoration of similar habitats.

The Wildlife Agencies offer the preceding general comments, and our general and specific recommendations and comments on the adequacy of DEIR in the accompanying Enclosure, to assist the Port and project applicant(s) in ensuring that the Proposed Project's biological impacts are avoided and/or minimized to below a level of significant.

We appreciate the opportunity to comment on the DEIR. For questions regarding this letter, contact: Carolyn Lieberman or Amber Himes at (760) 431-9440 of the Service; and Libby Lucas at (858) 467-4230 or Marilyn Fluharty at (858) 467-4231 of the Department.

Sincerely,

//s//Kathleen Brubaker, for
Therese O'Rourke
Assistant Field Supervisor
U.S. Fish and Wildlife Service

//s//
Michael J. Mulligan
Deputy Regional Manager
California Department of Fish and Game

Enclosure

cc: Marisa Lundstedt, City of Chula Vista
Robert Smith, U.S. Army Corps of Engineers
Chris Means, California Regional Water Quality Control Board
Deborah Lee, California Coastal Commission
Robert Hoffman, National Marine Fisheries Service
Joanna Grebel, California Energy Commission
Andy Yuen, Project Leader, San Diego NWR Complex
State Clearinghouse

**WILDLIFE AGENCIES' COMMENTS ON THE DRAFT EIR FOR
THE CHULA VISTA BAYFRONT MASTER PLAN AND
PORT MASTER PLAN AMENDMENT**

The Wildlife Agencies offer the following general and specific recommendations and comments on the adequacy of Draft Environmental Impact Report (DEIR) to assist the San Diego Unified Port District (Port) and project applicant(s) in ensuring project impacts to biological resources are avoided and/or minimized to below a level of significant. Our specific comments are based on the preferred alternative. If the alternative approved for implementation deviates from the preferred alternative presented in the DEIR, we may have additional comments. We request a meeting with the Port, the City, and stakeholders to further discuss the Proposed Project and our comments, after we have had an opportunity to review the responses to our comments, and prior to the Port's decision as to whether to revise and recirculate the DEIR (comment 2 below), or well in advance of the Board of Port Commissioners' and consideration of the DEIR for certification.

The Proposed Land Exchange

1. The Wildlife Agencies support a land exchange that eliminates or minimizes the possibility of includes removal of residential development and its associated direct and indirect impacts to on-site and adjacent sensitive biological resources. We therefore recommend that the Proposed Project implement an alternative that incorporates the following components of both the Modified Land Exchange and the Harbor Park Alternative:
 - a. the components of the Modified Land Exchange that avoid placing residential development and its associated impacts adjacent to the J Street Marsh and the Sweetwater Marsh and South San Diego Bay Units of the San Diego NWR;
 - b. the components of the Harbor Park Alternative that relocate (i) the Signature Park from the Sweetwater District (S-2) to the Harbor District (H-3), and (ii) a conference hotel from the Harbor District to the Sweetwater District (S-2), to minimize uncontrolled human and animal encroachment into the Sweetwater Marsh Unit and adjacent mudflats;
 - c. move the Resort Conference Center (RCC) farther away from San Diego Bay (from H-3 to H-23) to avoid impacts to the F&G Street Marsh and the Bay due to shading, to minimize its potential for losses of listed species from avian predators perching on tall structures, and to reduce the potential for bird strikes; and,
 - d. reduce the building heights in the areas of the Sweetwater District (S-1) that are adjacent to the Sweetwater Marsh Unit to avoid impacts related to shading and predator perching.

We do not however support the inclusion of a 2,000 to 5,000 seat amphitheater on parcel HP-1, which is proposed as part of the Harbor Park alternative, because it would increase disturbance to wildlife that roost and nest within and/or in the vicinity of the project site.

Adequacy of Environmental Review under CEQA

2. Throughout the DEIR, there are multiple instances of inadequate identification and analysis (even at a programmatic level) of biological impacts, and inadequate, or inappropriate deferral of, mitigation. Subsequently, the impact analyses and proposed mitigation is insufficiently detailed to assess the biological implications of the Proposed Project. CEQA requires that all anticipated impacts and proposed mitigation be clearly identified in a DEIR and not deferred for future study. This is supported by *Sundstrom v. County of Mendocino*, 202 Cal.App3d 296, which states “the requirement that the applicant adopt mitigation measures recommended in a future study is in direct conflict with the guidelines implementing CEQA....By deferring environmental assessment to a future date, the conditions run counter to that policy of CEQA which requires environmental review at the earliest feasible stage in the planning process.”

The lack of inadequate analysis and mitigation in the DEIR undermines the basic purposes of CEQA. These purposes include, but are not limited to the following: (a) informing governmental decision-makers and the public about the potential, significant environmental effects of proposed activities; (b) identifying the ways that environmental damage can be avoided or significantly reduced; and (c) preventing significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible [CEQA Guidelines, section 15002(a)].

Based on the foregoing and ensuing comments and recommendations, we strongly urge the Port to (a) revise the DEIR to adequately identify and analyze the Proposed Project's biological impacts addressed in this comment letter, and to provide appropriate mitigation for the impacts, and (b) pursuant to Section 15088.5 of the CEQA Guidelines, recirculate the revised DEIR for public review prior to its consideration for certification.

This would be particularly appropriate if, for example, there is one or more feasible project alternative(s), or there are mitigation measures, considerably different from those previously analyzed that would clearly lessen the environmental impacts of the Proposed Project, but the Port declines to adopt them [CEQA Guidelines, Section 15088.5(a)(3)]. Our recommendation derives from the lack of basic impact analyses in the DEIR, analyses needed to conform to CEQA. The revisions to the DEIR to be recirculated should be fully responsive to our comments by providing full disclosure of the potential project-related biological impacts, and additional measures necessary to mitigate the impacts to a level less than significant.

3. The DEIR states, "Additional environmental review ...required for Phases II and III projects will be determined pursuant to State CEQA Guidelines Section 15168." However, the project description, impact analysis, and proposed mitigation measures in the DEIR for Phase I projects provide insufficient information to constitute a project-level review under CEQA. Again, the DEIR does not satisfy the basic purposes of CEQA because it lacks the level of detail (particularly with respect to project descriptions, impact analysis, and proposed mitigation) needed for thorough evaluation and review of potential Project-related impacts. For these reasons, as discussed further in subsequent comments herein, the entire DEIR should be considered a programmatic DEIR, and all project components, including those in Phase I, should be subject to subsequent public review and comment.
4. The existing conditions discussion of Land/Water Use Compatibility (Section 4.1 of the DEIR) is generally limited to land uses within the Proposed Project footprint, though the discussion should also address the Proposed Project's compatibility with adjacent uses. The document should describe the land uses and planning policies established for the San Diego Bay National Wildlife Refuge (NWR), which abut the Proposed Project site to the north, south, and west. For this purpose, Section 4.1.1.1 of the recirculated/final EIR should include a discussion of the recently approved Comprehensive Conservation Plan for the NWR. In addition, the recirculated/final EIR should accurately analyze the potentially significant land use compatibility impacts to the NWR that could result from the implementation of various components of the Proposed Project.

Specific Comments

The following comments address specific sections in the DEIR where project information is insufficient for the level of review necessary under CEQA. The recirculated/final EIR should provide a level of detail necessary for adequate analysis and disclosure of biological impacts and determination of appropriate mitigation.

5. Section 4.1.1.1 should be revised to address the NWR, and Figure 4.1-5 should be revised to include not only the current boundary of the Sweetwater Marsh Unit of the NWR, but also the current boundary of the South San Diego Bay Unit of the NWR to the south and west. Suggested language for Section 4.1.1.1 (San Diego Bay NWR Comprehensive Conservation Plan) is provided below.

g. San Diego Bay NWR Comprehensive Conservation Plan

The U.S. Fish and Wildlife Service recently completed a Comprehensive Conservation Plan (CCP) for the San Diego Bay NWR (USFWS 2006). The CCP, which provides a 15-year strategy for achieving refuge purposes and contributing towards the mission of the National Wildlife Refuge System, describes why this Refuge was established and outlines the Refuge purposes, vision, goals, and objectives.

The San Diego Bay NWR includes the 316-acre Sweetwater Marsh Unit to the north of the Proposed Project, and the South San Diego Bay Unit, which includes 2,300 acres of land and water to the south and west of the Proposed Project. The Refuge was established to protect, manage, and restore habitats for federally listed species and migratory birds, and to maintain and enhance the biological diversity of native plants and animals on the Refuge. The Refuge includes most of what remains of San Diego Bay's historic coastal salt marsh and intertidal mudflat habitat. Refuge goals include: protecting, managing, enhancing, and restoring the coastal wetland and upland habitats on the Refuge to benefit native fish, wildlife, and plant species; protecting state and federally listed species and migratory birds supported on the Refuge; protecting foraging and nesting habitat for colonial nesting seabirds in the South San Diego Bay Unit; and providing opportunities for public uses that are compatible with Refuge purposes.

6. The project description in the recirculated/final EIR should provide more than only limited acknowledgement that the southern end of the Proposed Project footprint abuts a segment of the South San Diego Bay Unit NWR. A portion of parcel OP-2A directly borders 3000 feet of the NWR. The label "South San Diego Bay Unit of the San Diego Bay National Wildlife Refuge" should be used to identify the NWR on Figures 3-2, 3-3, 3-4, 3-5, 3-7, and 4.8-1. In addition, Section 3.1 and associated graphics should be revised to distinguish between the Sweetwater Marsh Unit and the South San Diego Bay Unit of the NWR. The last sentence in the second paragraph of Section 3.1 should read: "Palomar Street and the South San Diego Bay Unit of the San Diego Bay NWR, which includes the existing salt evaporation ponds, at the southern end of San Diego Bay border the planning area to the south and west."
7. The analysis of compatibility of the Proposed Project with the NWR on page 4.1-77 of the DEIR is inadequate. The significant impacts identified on page 4.1-68 of the DEIR related to public access, lighting, and noise (which should also address fireworks, outdoor concerts, and in-water uses) should also be clearly presented under Criterion 3 in Section 4.1.3 and should be expanded to address both the Sweetwater Marsh and South San Diego Bay Units of the NWR. Factors that should be considered in determining the Proposed Project's compatibility with the NWR include impacts to NWR habitats and wildlife from shading, storm water discharge, changes in topography that could affect current hydrological conditions on the NWR, increased noise levels and increased night lighting and sky glow, increases in predation, unauthorized access onto sensitive habitats, and other factors addressed throughout this comment letter. Corresponding enforceable mitigation measures that would reduce impacts to a level less than significant should also be added to Section 4.1.4. Finally, the Wildlife Agencies do not concur with the conclusion of the DEIR that "strategic" fencing would reduce compatibility impacts to a level less than significant, in part because no amount of fencing will minimize most the negative effects of most of the factors mentioned above. Nevertheless, the entire boundary of the Proposed

Project should have fencing or other suitable barriers that would prevent unauthorized access by humans and pets into sensitive coastal habitats.

8. The Wildlife Agencies consider the DEIR misleading in its classification of wetland resources under different regulatory jurisdictions. For example, the DEIR indicates that seasonal ponds in the Otay District and mulefat scrub in the Sweetwater District are exempt from the U.S. Army Corps of Engineers' (Corps) jurisdiction due to isolation. And, Figure 4.8-6, *Overview of USACE Jurisdictional Resources*, labels these wetlands as "exempt from jurisdiction." However, the Corps has not made this conclusion. Until the Corps designates which areas within the Project footprint are subject to or exempt from their regulation, the EIR should refrain from making such designations. The Wildlife Agencies believe that these seasonal ponds may be subject to the Corps jurisdiction based on information provided in the DEIR. Specifically, the DEIR indicates that the Soil Survey for San Diego County maps tidal flat soils along the eastern edge of the Otay District. Furthermore, the historic footprint (*i.e.*, 1859) of San Diego Bay also occurred within the Otay District (Map 3-1 in San Diego Bay Integrated Natural Resource Management Plan, Navy and Port 2000). We recommend that the recirculated/final EIR reflect wetland delineations that have been verified by the appropriate agencies so that the public can review all impacts to wetlands and waters, and their associated mitigation.
9. Based on the description of the uses to be permitted within the eastern 200 feet of the proposed 400-foot wide "ecological buffer," the Wildlife Agencies request that the nomenclature used for the buffer be changed to avoid any misunderstanding on the part of the public or the decision makers. As described in the DEIR, the 400-foot-wide area does not meet the intent of an "ecological buffer." Specifically, the human activities to be allowed within the eastern 200 feet are not compatible with the purposes of an ecological buffer. A true ecological buffer represents an area where no human activity is allowed except for conservation and restoration purposes. In the case of the Proposed Project, the only ecological buffer is within the 200-foot no touch/mitigation area, with the exception of the proposed trail outlooks. The 100-foot limited use buffer and 100-foot transitional use zone should not be considered ecological buffers because they allow uses that are not compatible with conservation. Therefore, the recirculated/final EIR should rename this 200-foot area to more accurately describe the types of low intensity park uses that are proposed within it. Note that we are not requesting a wider true ecological buffer; we are simply a requesting clarification of the intent and uses that would occur within the 400-foot-wide area that abuts the Sweetwater Marsh Unit.
10. The DEIR does not identify the numbers, heights, or locations of the buildings proposed on each parcel. This lacking information is particularly important for parcels S-1, S-4, H-3, H-13, H-14, and O-1A and O-1B, which are adjacent to preserved wetlands within the NWR or other wetland areas (*e.g.*, Sweetwater Marsh, F&G Street Marsh, and J Street Marsh). Depending on their design and location, the buildings on these parcels could provide raptorial perches that overlook wildlife habitat supporting several sensitive avian species

that are prey for raptors, result in bird strikes, and shade adjacent wildlife habitats. Yet, the DEIR does not include adequate mitigation measures to avoid and minimize biological impacts associated with the buildings.

11. The DEIR does not provide adequate information to enable the reviewer to understand how the existing elevations within the Proposed Project site would be changed or how existing drainage patterns would be altered to accommodate future development. The full project-level impact analysis of Phase I in the recirculated/final EIR should include a detailed grading plan for each of the Phase I development areas. Without this information, it is infeasible to properly assess the Phase I potential effects to adjacent coastal resources.
12. The overall design of the Proposed Project should minimize biological impacts in all three project Phases. Project components of Phase I should not foreclose the potential to avoid or minimize the biological impacts from Phases II and III. For example, to a considerable degree, the design (e.g., height) and location of the buildings (i.e., aspects of the buildings that affect biological resources such as the Pacific Flyway) in Phase I will dictate the same for buildings in Phases II and III. Trade-offs among the three Phases in the design and location of buildings warrant considering the entire project as a whole to avoid or minimize its biological impacts.
13. The project description for Parcel S-2 Signature Park (Phase I) lacks the detail necessary for a full analysis of its impacts. The recirculated/final EIR should include: an as-built 11"x17" rendering of the of the Proposed Project design; a full description, with all permitted uses, anticipated activities, hours of operation, structures, lighting fixtures, and other accessory features fully described; and, a detailed analysis of the impacts associated with each of these proposed elements.
14. The project description for Parcel S-2A Open Space (Phase I) describes the parcel as an existing street and as a project mitigation site. The DEIR provides no description of the condition of the vegetation on site, nor details regarding the possible use of the site for mitigation. If this parcel is to be included in Phase I, then the proposed use of the parcel should be fully described. Decisions regarding use of the site for mitigation and whether or not the existing street segment would be demolished are necessary in order to complete adequate project specific CEQA review. The EIR should address the following: whether the site, if used for mitigation, would become part of the F & G Street Marsh; how might the restored habitat be affected by implementation of the Proposed Project; and what would be the value of the site in terms of conservation.
15. The project description in the recirculated/final EIR should acknowledge that the southern end of the Proposed Project is located in the vicinity of the City of San Diego's MSCP preserve, the Multiple Habitat Planning Area (MHPA). Figure 4.8-1 should be revised to include the boundaries of the MHPA.

16. Figure 4.8-1 should be revised to identify the mudflats located west of the Sweetwater Marsh and north of the Harbor District. The recirculated/final EIR should discuss the importance of this mudflat as a biological resource that provides essential foraging and resting areas for birds migrating along the Pacific Flyway.
17. The recirculated/final EIR should provide the details and purpose of the habitat buffer (*e.g.*, buffer width, vegetative cover, permitted and prohibited uses within) between the J Street Channel and development in the Harbor District or around the F&G Street Marsh.
18. The description of the design of the new F&G Street Marsh Bridge is not of sufficient detail to allow for adequate project-level analysis of potential impacts to wetlands and biological resources in the adjacent NWR. The description lacks important details such as the overall design (*e.g.*, length of the bridge), the type of crossing (*e.g.*, box culvert, open span), and duration of its construction.
19. If the recirculated/final EIR retains (we recommend that it not – comment 31b) the proposed pedestrian bridge at Lagoon Drive between the seasonal wetland (SP-2) and F&G Street Marsh, it should provide an evaluation of how the bridge could affect the restoration potential of these two marshes (*e.g.*, any restoration limitations due to the length and height of the bridge).
20. The recirculated/final EIR should provide the design specifications (*e.g.*, box culvert or open expanse, length, height) of the bridge for the new E Street as it crosses the primary tidal channel connecting the F&G Street Marsh to San Diego Bay (see comment 31d).
21. The design of the Resort Conference Center (RCC; Parcel H-3) is not described sufficiently to fully analyze potential impacts. Important design features that need to be discussed in the project description include the proposed building layout on the site with all building heights indicated, the building surface design (*e.g.*, amount and height of glass), building and landscape lighting proposals, and the major components of the landscape design (*e.g.*, tree placement and potential species mix).
22. The project description for parcel HP-23A states, “Because no specific use is proposed, uses that would generate traffic would be subject to separate environmental review pursuant to CEQA Guidelines 15168.” This is a misleading statement in that, regardless of the amount of traffic they would generate, all of the programmatic level components (*i.e.*, all project components of Phase II or III, not just parcel HP-23A) of the Proposed Project would likely be subject to subsequent environmental project-level analysis pursuant to CEQA in order to fully evaluate all of their potential environmental effects. This project-level analysis should occur only after site plans and design for Phases II and III are prepared.

Mitigation for Direct Losses of Habitat and Species

23. Throughout the project description, there is mention of small areas that would be designated as "Wetlands and Mitigation Bank." However, there is no description of what this designation means. It is unclear whether these areas are intended solely for project-related mitigation obligations, or to provide the latter plus mitigation "credits" using excess (*i.e.*, beyond the project-related mitigation obligations) mitigation for other projects. If the intent is the former, the term "Mitigation Bank" should not be used. If the intent is the latter, the project applicant needs to go through the appropriate channels to obtain authorization to sell mitigation credits. In this case, the project applicant should discuss this with the Wildlife Agencies as soon as possible, though it may be that the Wildlife Agencies will accept these mitigation areas as mitigation only for the indirect impacts of the Proposed Project.
24. The DEIR identifies the mitigation for the entire Proposed Project. While this addresses the cumulative impacts of the Proposed Project, recirculated/final EIR should also provide the impacts and associated mitigation broken down per parcel. Assuming that the owners of each individual parcel would be responsible for mitigating the impacts to that parcel, it will be necessary to have a table and/or text description of who would be responsible for what impacts and mitigation per.
25. The recirculated/final EIR should clarify why Table 4.8-5 distinguishes between total acreage and total credits, and which number is intended to account for the mitigation obligations of the Proposed Project
26. Since the clapper rail is not only a federal and state endangered species, but also a State Fully Protected Species, only the Service can authorize its take.¹ Therefore, Mitigation Measure 4.8-4, which addresses direct impacts to light-footed clapper rail (*Rallus longirostris levipes*, clapper rail), should be modified to assure that impacts to clapper rail are avoided year-round because this species is a year-round resident. As the species is secretive and reacts to disturbances by hiding in the vegetation, it is susceptible to being crushed by heavy equipment. Therefore, any work occurring within potential clapper rail habitat may affect this listed species and requires consultation with the Service pursuant to the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The DEIR should acknowledge that any take must be authorized by the Service and should be expanded to indicate how implementation of the proposed biological monitoring will be assured. Mitigation measure 4.8-7 should be revised to provide assurance that there will be no take of clapper rail.

¹ Pursuant to Section 3511 of the California Fish and Game Code, the light-footed clapper rail is also designated as a State Fully Protected species. This designation prohibits take or possession of this species at any time (*i.e.*, no take authorizations from the State are available). This also applies to the bird's eggs.

27. The statement on page 4.8-37 indicating that gnatcatcher have not been reported in the project vicinity is incorrect. The statement should be revised to state that gnatcatcher have been observed in upland habitat on the Sweetwater Marsh NWR. The impact and mitigation section should also be revised to recognize the project's effect on gnatcatchers. Any potential take, either direct or indirect, of gnatcatchers requires consultation with the Service pursuant to the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).
28. Mitigation Measure 4.8-9 B and Mitigation Measure 4.8-10 B should be revised to require that all updated assessments of potential impacts from the Proposed Project and proposed mitigation be submitted to the Wildlife Agencies for review and approval, in addition to being submitted to the Port and/or City.
29. Inappropriately, the DEIR does not require mitigation for losses of raptor foraging habitat (e.g., non-native grassland). Mitigation for project-related losses of raptor foraging habitat should occur at a ratio of 1:1 away from the project site (e.g., east of Interstate 5 or south of the South San Diego Bay Unit) since concentrating raptor habitat, and thus raptors, into the remaining habitat within and adjacent to the project site could compromise the survivorship of sensitive ground nesting birds raptors prey upon.
30. Except for mitigation for impacts to raptor foraging habitat, the Wildlife Agencies recommend that all mitigation for project-related direct and indirect impacts to sensitive habitats occur within or adjacent to the project area.
31. The following comments are specific to the *Mitigation Opportunities for the Chula Vista Bayfront Project in the City of Chula Vista, California (Recon 2006, Mitigation Plan, and Appendix AA)*.
 - a. To offset loss of wetlands and uplands, the DEIR proposes mitigation within the approximate 200-foot "no-touch" habitat buffer along the western boundaries of the Sweetwater (Parcel SP-1) and Otay (Parcel OP-2A) Districts. The Mitigation Plan (Appendix AA) states, "A carefully designed buffer zone...will lessen the impacts associated with development and create an interface that gradually transitions from undeveloped native landscape to developed areas." The Wildlife Agencies consider the restored habitat within the no-touch buffer zone as mitigation only for indirect impacts to the adjacent sensitive biological resources (e.g., Sweetwater Marsh and associated mudflats and J Street Marsh), not for direct impacts (i.e., habitat losses). Created or restored habitat that is intended as mitigation for loss of sensitive habitat should have a minimum 100-foot no-touch habitat buffer between it and adjacent development to minimize indirect impacts from development to the mitigation site. Therefore, the recirculated/final EIR should identify locations other than the no-touch buffer zone to create or restore habitat as mitigation for habitat losses. The Wildlife Agencies do, however,

concur that the habitat restoration within the buffer should be subject to a monitoring and maintenance program.

- b. Rather than replace Lagoon Drive [between the seasonal wetland (SP-2) and F&G Street Marsh] with a pedestrian bridge, the Wildlife Agencies recommend that Lagoon Drive be permanently removed to maximize restoration opportunities within and adjacent to the F&G Street Marsh and the seasonal wetland (SP-2). This would partially meet mitigation obligations for loss of habitat, and would minimize human disturbances to the wildlife that may reside within them.
- c. Consistent with our July 20, 2006, letter to the City of Chula Vista concerning the Mapping Conflict within the F&G Street Marsh area of the Chula Vista MSCP Subarea Plan, (FWS-SDG-882.7) we request that Marina Parkway proposed to also be demolished and restored as part of the buffer between the project and F&G Street Marsh, and that the restored area be remapped to again be within the City's MSCP Preserve. This would partially meet mitigation obligations for loss of habitat, and would minimize human disturbances to the wildlife that may reside within F&G Street Marsh.
- d. The Wildlife Agencies recommend an open expanse for the bridge of the proposed E Street crossing the primary tidal channel between the F&G Street Marsh and San Diego Bay. In addition, the length and height of the bridge should be maximized. This would ensure that the restoration potential within F&G Street Marsh is not limited by insufficient tidal exchange and that adequate high-tide refugia are provided to accommodate wildlife moving between the Bay and the marsh.
- e. Any habitat mitigation proposed within the F&G Street Marsh must be coordinated with, and approved by, the Refuge Manager in accordance with the existing Memorandum of Understanding for the Mitigation Leasehold Overlays on the Sweetwater Marsh Unit. Habitat mitigation and/or changes to the existing tidal channel that connects the F&G Street Marsh to San Diego Bay should also be coordinated with the Refuge Manager to ensure that no adverse effects to NWR resources could result from such actions.

Indirect Impacts and Habitat Degradation

32. The DEIR should acknowledge that indirect impacts associated with development adjacent to sensitive habitats would result in a degradation of habitat. The Proposed Project would introduce new and exacerbate existing anthropogenic negative indirect effects to adjacent biological resources; these effects include increased predation on wildlife, increased disturbances to wildlife, bird strikes and disorientation, shading of adjacent habitat, human encroachment, increased noise, increased illumination, and

detrimental changes to hydrology and water quality. Many of these indirect impacts, also referred to as “edge effects,” result in a degradation of habitat. In addition, the DEIR should analyze the adverse effects of human activity within 100 feet of the adjacent Sweetwater Marsh Unit, and does it identify potential impacts related to unencumbered access from the Signature Park into the adjacent wetlands (*i.e.*, a continuous fence to protect coastal resources from human and domestic animal intrusion).

A report published by the Department in 1973 on the natural resources of San Diego Bay states, “direct and indirect impacts upon the Sweetwater marsh complex by any further development will seriously threaten the capacity of the area to support resident and migrant wildlife populations” (Department 1973; page 87). It is primarily the potential indirect impacts associated with development that are of such concern. In 1979, the Department wrote a memo to the San Diego Coast Regional Commission on the Chula Vista Land Use Plan. The memo favors the maintenance of the agricultural operation that existed at that time adjacent to the coastal salt marsh, stating, “It would seem to be more compatible with the marsh than the proposed residential and visitor serving development. The agricultural operation provides an effective buffer between the marsh habitat and urban (or industrial) encroachment” (Department 1979).

The Wildlife Agencies recognize the efforts made to reduce the intensity of the development proposed adjacent to the Sweetwater Marsh. However, despite these efforts, we concur with the sentiments reflected in the preceding paragraph because the overall intensity of development within the Proposed Project area could still result in significant direct and indirect impacts to sensitive habitats and the species they support. The wildlife habitats that occur within or in close proximity to the Proposed Project area (*e.g.*, Sweetwater Marsh and South San Diego Bay Units of the NWR, the F&G Street Marsh, the J Street Marsh, the shoreline and mudflats of San Diego Bay, and the Chula Vista Nature Reserve) are important to the survival of numerous resident and migratory species. As such, future development must retain the biological functions and values of these sensitive habitats. The recirculated/final EIR should reflect project modifications and require habitat restoration and management elements that would mitigate for the direct, indirect, and cumulative impacts from the project. We provide below a more detailed discussion of specific indirect impacts and possible mitigation measures to reduce impacts that should be identified and addressed in the recirculated/final EIR.

Mitigation Measures for All Indirect Impacts

33. Mitigation for indirect impacts that result in permanent degradation of sensitive habitats within or adjacent to the project site should include enhancement or restoration of directly and indirectly avoided in-kind habitat elsewhere within the Proposed Project area at a minimum of a 1:1 ratio. For example, the project description indicates that Parcel HP-5, consisting of wetlands within an existing narrow “L” shaped drainage channel, would remain, and would contain a 50-foot-wide setback on either side to protect against

encroachment into the wetlands. The Wildlife Agencies generally recommend that a minimum of a 100-foot wide buffer be provided between wetlands and development. Although the wetland on Parcel HP-5 is considered open space and un-impacted in the DEIR, this wetland would experience a number of indirect impacts (*e.g.*, shading, night lighting, urban runoff). The recirculated/final EIR should fully address all such impacts to wetlands and other sensitive habitats and should provide appropriate mitigation to reduce the impacts to a level less than significant. Similarly, mitigation for degradation of the wetlands located in the Sweetwater District (SP-2 and SP-1) and the F&G Street Marsh and its tidal tributary should include enhancement of those wetlands and the restoration of similar habitats at a minimum of a 1:1 ratio.

Buffers to Sensitive Habitat and Wildlife

34. In our September 12, 2005, letter, we requested that adequate habitat buffers (*e.g.*, no touch buffers) surround all sensitive biological areas to minimize indirect impacts from adjacent development. These buffers should prohibit human and domestic animal access, consist of only appropriate locally native species, and be free of all project infrastructure (*e.g.*, erosion control devices, fences, brush management, trails, and picnic tables). To prevent human and mammalian access into buffer areas, fencing or other suitable barrier systems should be installed at the outside edge of the habitat buffer prior to the initiation of project construction. Additionally, screening or berms should be incorporated around or within the habitat buffers to protect wetland birds from lighting and noise related-disturbances from beyond the buffer. In concert with the habitat buffer, land uses adjacent to the buffer should include low intensity public use (*e.g.*, walking, biking, and passive recreation) to minimize indirect impacts (*e.g.*, lighting, shading, and noise) associated with high intensity development. We recommend that landscaping adjacent to buffers utilize only native species to conserve water and avoid or minimize pollutant (*e.g.*, fertilizers, pesticides) discharge into wetlands.

Specific Comments

35. In addition to the habitat buffers proposed in the DEIR, a no-touch minimum 100-foot wide habitat buffer should be designed around any wetland in or adjacent to the project site. For instance, buffers should surround the wetlands in SP-1, SP-2, HP-5 (L Marsh), F&G Street Marsh and its associated tidal inlet, J Street Marsh, Telegraph Creek (OP-2A), and the South San Diego Bay Unit of the NWR. These buffers should be incorporated into Parcels SP-1, S-2, HP-11, S-2A, H-13, H-14, HP-6, HP-7, OP-2A, and O-1A. A 100-foot buffer should also be placed along the entire shoreline to prevent human and domestic animal access to the mudflats and salt marsh. As the project is proposed, only parcel H-1A is designed to have a 100-foot buffer along its shoreline.
36. The DEIR inappropriately identifies the 400-foot-wide buffer (Parcel SP-1) between development (S-1, SP-3, and S-2) and Sweetwater Marsh Unit as an "ecological buffer."

Comment 9 explains why this term inaccurately describes the proposed buffer. As discussed in our September 12, 2005, letter, the 200-foot no-touch buffer zone within the Sweetwater District (Parcel SP-1) should include no human activities and should be protected with a permanent fence. As shown in Figure 4.8-24, there is an outlook, fence, and berm proposed within this no-touch buffer. The outlook, fence, and berm all need to be relocated to the 100-foot limited use zone. A permanent fence should be placed along the northern and westerly edge of the entire length of the 200-foot buffer to prevent human and animal encroachment into the habitat buffer and adjacent sensitive habitats. As recommended in our September 12, 2005, letter and discussed at several meetings with Port and City representatives, mitigation for significant direct and indirect impacts to sensitive wetland areas as a result of increased human and domestic animal activity in and around Sweetwater Marsh and adjacent intertidal areas should be provided through installation of appropriate fencing. We continue to recommend a minimum six-foot-high black vinyl chain link fence along the development side of the habitat buffer boundary. Any fencing between development and the NWR should be coordinated with the Refuge Manager. Native cacti, as proposed on page 3-28 of the DEIR, would not adequately mitigate potential impacts related to unauthorized access into sensitive areas from the adjacent park site.

The Mitigation Plan (Appendix AA) indicates that the Transitional Use Zone in SP-1 may incorporate a more landscaped theme. The Wildlife Agencies recommend that landscaping use only native species to conserve water and avoid and minimize pollutant (*e.g.*, fertilizers, pesticides) discharge into wetlands. Landscaping should not include trees that may provide nesting for pest species (*e.g.*, rats) or predator perches with a line-of-sight into the NWR or adjacent mudflats.

The Wildlife Agencies recommend that impacts to the woolly sea-blite population located within SP-1, which is considered a buffer, be avoided.

37. A buffer of at least 200 feet should be provided between wetland resources within the Sweetwater Marsh Unit and the edge of Parcel S.
38. A no-touch habitat buffer should be included between the office buildings proposed on Parcel S-4 and the wetlands to the north, which are located on the NWR.
39. The mudflat shoreline extending north of the Harbor District is used by migratory birds for foraging and resting. Human and animal encroachment into the mudflats would disturb the birds, causing them to move and expend energy otherwise necessary for completion of their migration. The DEIR proposes a buffer and signage along the entire shoreline of the project in the Sweetwater District to help protect the mudflats from human impacts. We recommend that suitable physical barriers (*i.e.*, chain link fence) be provided along the buffer edge farthest from the mudflat shoreline to minimize encroachment from humans and domestic animals into the mudflats.

40. The Wildlife Agencies recommend that the buffer and shoreline north of the J Street Channel (HP-6 and HP-7) be naturalized. For instance, the rip rap could be removed to provide a more natural shoreline, with native upland plants installed between the channel and the proposed promenade. As already indicated, the habitat buffer north of the J Street Channel should be at least 100 feet wide. To maximize the width of the habitat buffer, we recommend that the width of the promenade be reduced from 12 feet to 8 feet.
41. Although parcel OP-2A is designated as an ecological buffer, the project description refers to a pedestrian pathway and a public boardwalk/observation area that could encroach into the buffer. The recirculated/final EIR should identify where encroachment occurs and fully analyze all associated impacts to the ecological buffer within parcel OP-2A, as well as to the adjacent segment of the Refuge, J Street Marsh, and the wildlife these areas support.
42. The DEIR provides no discussion in the project description about parcel O-4 or the buffer area shown immediately to the west of this parcel on Figure 1-1. The recirculated/final EIR should indicate what, if any, uses are proposed between the relocated power plant and the South San Diego Bay Unit of the NWR. The Wildlife Agencies recommend that a 100-foot-wide ecological buffer be provided to minimize or avoid impacts to the adjacent wetland area.

Increased predation on wildlife

43. The DEIR does not adequately address the inevitable project-related increase in levels of predation on sensitive species located on the NWR and other sensitive habitats. The recirculated/final EIR should include an adequate analysis of the impacts related to increased predation as a result of: (1) increases in nocturnal lighting; (2) displacement of foraging raptors and mammalian predators from the project site to adjacent wildlife habitats; (3) increases in the numbers of generalist predators (*e.g.*, rats, ravens, crows, gulls) attracted to the area due to increases in trash; and (4) the introduction of additional cats and dogs as a result of new residential development. The recirculated/final EIR should also propose adequate measures to mitigate these impacts to a level less than significant.
44. The Wildlife Agencies are concerned about the inclusion of the proposed Signature Park on S-2 because it would likely attract generalist predators to the adjacent NWR and mudflats. The Signature Park includes amenities such as lighting, picnic areas, and vending of food and beverages, which could attract generalist predators due to an increase in trash. Though trash containers would be provided, some windblown trash from park users would end up in the adjacent wildlife habitats (Significant Impact 4.5-1), thus attracting predators that also prey on ground nesting birds.

45. The recirculated/final EIR should identify the potential for indirect impacts to wildlife from increased predator perching due to the building heights and designs and types of landscaping proposed on the following parcels (adjacent habitat affected shown in parenthesis): S-1 (Sweetwater Marsh), S-4 (Sweetwater Marsh), H-3 (F&G Street Marsh), H-13 (J Street Marsh), H-14 (J Street Marsh), and O-1A and O-1B (J Street Marsh).

Mitigation Measures

46. We recommend that all relatively tall structures and all landscaping within the project site be situated away from sensitive habitats to reduce predator perches with a line-of-sight into adjacent sensitive habitats, as well as to reduce shading effects on sensitive habitats, and bird strikes (*i.e.*, collisions with reflective glass). For example, development on S-1 and S-4 should be re-oriented so that the buildings (*e.g.*, 125-foot tall buildings proposed on Parcel S-4) and any tall landscaping is located at the southern portion of the parcels while the parking is located at the north end of the parcels. This would minimize the introduction of predator perching with a line-of-sight into the adjacent marshes north and west of the parcels. Figure 3-9 of the DEIR shows that the buildings are proposed to be located at the northern end of the parcels in close proximity to the adjacent sensitive habitats. Similarly, the tallest buildings associated with the RCC should be located on the southeast portion of Parcel H-3. This would also reduce the RCC's shading impacts to the F&G Street Marsh and minimize the potential for bird strikes.
47. While the DEIR acknowledges that increased predation could result from an increase in predator perches with a line-of-sight into habitats, no mitigation measures are proposed to avoid and minimize such impacts. The recirculated/final EIR should require that all buildings, signs, lighting fixtures, and tall landscaping with a line-of-sight into sensitive habitats be designed and/or placed in such a manner to avoid the introduction of predator perches and thereby reduce the potential for take of sensitive wildlife.
48. To at least partially mitigate for the project-related increase of predation take of federally and/or state listed ground nesting birds (*i.e.*, least tern, western snowy plover, clapper rail, and Belding's savannah sparrow), the recirculated/final EIR should require (a) that the applicant establish a non-wasting endowment that would accrue sufficient interest annually to underwrite the costs of the services of predator control specialists, such as U.S. Department of Agriculture, Wildlife Services, and (b) the in-perpetuity implementation of a predator control on the adjacent NWR (Sweetwater Marsh and South San Diego Bay Units) and other sensitive habitat areas (mudflats west of Sweetwater District, J Street Marsh). The Port should coordinate with the Refuge Manager to determine the appropriate size of the endowment commensurate with the project-related impacts.
49. The Proposed Project would result in a significant impact to San Diego Bay and adjacent wetlands due to wind-blown litter (Significant Impact 4.5-1). To mitigate such impacts,

the project includes trash control measures (*e.g.*, trash containers with attached lids, trash control enclosures). However, this may not be adequate. Chain link fencing should be provided along the entire interface of development and sensitive habitats to capture trash and reduce attraction of predators and pest species into sensitive areas.

Disturbances to Wildlife

50. Disturbances to wildlife associated with the implementation and long-term operation of the Proposed Project should be addressed. For instance, outdoor activities, such as fireworks, concerts, and other light and noise generating activities that could be associated with the resort/conference center, Signature Park, other parkland, harbor, ferry terminal, and various retail/commercial recreation areas, and their impacts to wildlife are need to be described, and their impacts analyzed. Similarly, impacts to migratory, resident, and breeding birds that could result from the increased on-water recreation from redevelopment of the South Bay Boatyard (HW-6) and the Commercial Harbor (HW-3) within the Chula Vista Marina should also be described.

The new commercial harbor is intended to enhance public access to the water, and enhance boating activity on the water. Envisioned for this commercial harbor are water taxis, dinner boats, harbor cruises, visiting historic vessels, and boat rentals, a ferry terminal, and restaurant. Increased boating activity could negatively affect foraging and loafing activities of shorebirds and waterfowl. Increased disturbances to foraging habitat could negatively affect the stability of the adjacent nesting bird colonies (*i.e.*, South San Diego Bay and Sweetwater Marsh Refuge) because disturbance-free foraging areas to obtain food for chicks are important (Rodgers and Smith 1997). Increased boating could also displace water fowl access to feeding areas and result in a subsequent loss of production of young (Drent and Guiguet 1961, Conservation Committee Report 1978, Huffman 1999, Manning 2002). Although the birds can fly to other areas to avoid highly disturbed foraging habitat, such behavioral adaptations can increase the numbers of flights and flight times between foraging and loafing, resulting in energy deficiencies that could translate to reduced productivity and fitness (Manning 2002).

51. Though impacts to wildlife from construction noise are addressed, the DEIR does not adequately address impacts to wildlife from operational noise. The Biology sections of the recirculated/final EIR should include a discussion of operational noise impacts to wildlife. Currently, operational noise is addressed only in Section 4.7 *Noise*. Based on figure 4.7-3, it appears that noise levels that may affect several sensitive avian species could occur within all habitats within the project site [*e.g.*, L Street Marsh (HP-5), Telegraph Creek (OP-2A), ephemeral wetland (S-2A)] and habitats adjacent to the project site (J Street Channel and Marsh, and F&G Street Marsh and its tidal tributary). However, impacts to other habitats adjacent to the project site (*e.g.*, Sweetwater Marsh and South San Diego Bay Units of the NWR, Chula Vista Nature Reserve) cannot be evaluated because the noise contours provided in Figure 4.7-3 do not extend sufficiently

beyond the project boundary. As such, Figure 4.7-3 should be revised to include noise contour that extend 200 feet beyond the project boundary.

Mitigation Measures

52. Fireworks and outdoor concerts that generate noise beyond the development boundary should be restricted to outside the avian breeding season (*i.e.*, January through September, depending on the species) to minimize impacts to nesting and fledging birds.
53. To partially mitigate the Proposed Project's indirect impacts, the recirculated/final EIR should: (a) prohibit boating in the open waters east of the proposed realigned navigation channel and north of the South Bay boat yard to avoid or minimize disturbance to migratory birds feeding along the mudflats and resting in San Diego Bay; (b) require the installation of regulatory signage on buoys and boat markers along the boat channel; and, (c) require increased enforcement by the Harbor Patrol to deter watercraft from going ashore onto sensitive habitat areas (*e.g.*, Chula Vista Wildlife Reserve, northern levees of the Salt Ponds, mudflats along Sweetwater Marsh, J Street Marsh) and adversely affecting the birds and habitat that nest, forage, and rest there, and are subject to indirect project-related impacts.
54. Depending on an analysis of the noise contours in Figure 4.7-3 requested above, it may be necessary to mitigate for traffic related noise. For example, sound walls along the roads adjacent to sensitive habitats may be warranted. Potential mitigation should be addressed in the recirculated/final EIR.

Human Encroachment

55. The Wildlife Agencies are concerned that the Signature Park on Parcel S-2 would invite uncontrolled human and domestic animal encroachment onto the Refuge and the adjacent mudflats, thus disrupting wildlife. The recirculated/final EIR should require that the Proposed Project provide full-time personnel at the Signature Park to enforce restrictions on human and domestic animal access to the NWR and mudflats.
56. Shoreline promenades (HP-3, HP-6, and HP-7) occur immediately north of the J Street Channel and J Street Marsh. A four-foot-high railing is proposed to minimize encroachment into the J Street Channel and Marsh. The Wildlife Agencies recommend that the recirculated/final EIR require that the design of the railing include multiple horizontal railings and/or mesh fencing to ensure that domestic animals do not move under the railing into the marsh.
57. The following comments pertain to the Draft Port Master Plan Amendment (Appendix B to the DEIR; Draft Amendment).

- a. Page 33 of the proposed Draft Amendment describes land use designations utilized for Port-owned lands. The Port proposes to modify the "wetland" designation to "wetland and mitigation bank area." Specifically, the Draft Amendment includes language to allow areas within the wetlands on site identified for potential enhancement, restoration, and/or creation opportunities to be utilized as mitigation for future development projects. As indicated in Comment 23, this language may be inappropriate, and should be considered for elimination from the Draft Amendment.
- b. The Draft Amendment proposes language (Page 33) that allows passive uses, such as overlooks, picnic areas, and/or spur-trails, within the wetland buffers with the proposed designation of "wetland and mitigation bank area." These proposed modifications are inappropriate. Any wetland area, or their associated biological buffers, should be devoid of all development, including the passive uses proposed to be allowed. If such uses are to be allowed within wetland areas or their associated buffers, the recirculated/final EIR should provide an adequate analysis of the potential impacts to wetlands from these uses and discuss appropriate mitigation. Otherwise, the Port should remove from the Draft Amendment the proposed language allowing such uses.
- c. The Draft Amendment also includes language (Page 33) allowing interpretive and educational opportunities within the wetland buffers while, including coastal access. While the proposed language requires that such uses occur in a manner that will ensure the protection and preservation of these sensitive habitat areas. We recommend that all outlooks and interpretive tools occur outside of the 100-foot wetland buffer.

Bird Strikes and Disorientation

58. Despite our recommendations in our September 2005, letter, and in electronic mail to and meetings with the Port, on how the Proposed Project could avoid or minimize bird strikes and/or disorientation from collisions with buildings, the DEIR does not adequately address these impacts to migrating or resident birds. South San Diego Bay has been identified as a significant wintering ground and migratory stopover point along the Pacific Flyway because of its proximity to high-quality coastal salt marsh and San Diego Bay. Much of what remains of San Diego Bay's historical shallow subtidal, intertidal mudflat, and salt marsh habitats within the south bay provides essential foraging and resting areas for ten of thousands of birds migrating along the Pacific Flyway. In recognition of the importance of these remaining habitats, the south bay has been designated a Western Hemisphere Shorebird Reserve Network Site and the Units within the Refuge have each been recognized as Globally Important Bird Areas by the American Bird Conservancy. The recirculated/final EIR should address these important biological resources that occur immediately adjacent to the project boundaries. Additionally, the recirculated/final EIR

should include a map showing potential migration corridors through and/or adjacent to the subject property and how the migration corridor would be affected by the project.

Mitigation measures

59. There is a high potential for impacts to migrating and resident birds colliding with the buildings located on the following parcels: S-1 (Sweetwater Marsh), S-4 (Sweetwater Marsh), H-3 (F&G Street Marsh), H-13 (J Street Marsh), H-14 (J Street Marsh), and O-1A and O-1B (J Street Marsh). The DEIR includes mitigation measures to address these impacts only from buildings greater than 100 feet in height (Mitigation Measure 4.8-24). However, as stated in the DEIR, "both tall buildings and low buildings can be dangerous to birds" (Page 4.8-89). Therefore, such measures should be applied to all buildings that have an unobstructed line of sight to nearby open water or large areas of open space regardless of height. To determine if these measures are adequate, we again recommend that monitoring for bird strikes be implemented during Phase I of project implementation. The recirculated/final EIR should also require that, if there is evidence that bird strikes are occurring, the applicant contact the Wildlife Agencies as soon as possible to discuss potential measures for implementation to reduce these impacts.
60. Buildings should be oriented so the tallest buildings are as far away as possible from San Diego Bay or adjacent habitats.
61. The height limits on Parcel H-3 should be reduced to a maximum of three stories (or 50 feet) to avoid shading impacts to adjacent habitat areas and to minimize the potential for bird strikes.

Shading of Adjacent Habitat

62. Despite our recommendations in our September 12, 2005, letter, and in electronic mail to and meetings with the Port, the DEIR fails to address the biological impacts associated with shading of habitat by buildings and structures. Reductions in available light levels from shading can disrupt photosynthetic processes and impair growth of plants, algae, and phytoplankton in wetlands or waters, and thus modify existing habitats, which in turn can impair their suitability for avian species and other wildlife. We recommended that for each development option, the recirculated/final EIR provide three-dimensional images of any structures that could cast shadows on adjacent freshwater, intertidal, and tidal wetland areas. These images should reflect the maximum allowable floor area ratio, the maximum allowable height, and the minimum contemplated setbacks (*i.e.*, buffers). The acreages of the shaded areas should be quantified by habitat type and described. Based on our review of the DEIR, we anticipate the following project components would impact habitats from shading.

- a. Development adjacent to the L-Marsh (HP-5) would consist of 300-foot tall buildings set only 50 feet back from the wetland. These buildings would shade and negatively affect the L Marsh and could potentially affect the J Street Channel and J Street Marsh. Based on an analysis of the potential shading effects of each building on sensitive habitat, the recirculated/final EIR should (a) describe modifications to building designs and/or locations (*i.e.*, reduced building heights or increased width of setbacks), and (b) if shading impacts still occur, require appropriate mitigation consistent with Comment 33.
- b. Parcel H-3 has a maximum building height of 300 feet. Depending upon the placement of the buildings on this site, future development could negatively affect the F&G Street Marsh (which would represent a direct impact to resources located on federal owned land) and its tidal inlet. To avoid shading impacts, the maximum height limit on this parcel should be reduced to three stories (or 50 feet). The recirculated/final EIR should (a) describe such modifications to the building designs, and (b) if shading impacts still occur, require appropriate mitigation consistent with Comment 33.

Increased Illumination

63. Despite our recommendations in our September 12, 2005, letter, and in electronic mail to and meetings with the Port, the DEIR does not fully address impacts associated with artificial night lighting (ANL), including direct and indirect (*i.e.*, sky glow, light pollution) ANL. ANL generally threatens wildlife by disrupting biological rhythms and otherwise interfering with the behavior of nocturnal animals (see contributions from Artificial Night Lighting Conference 2002). Nocturnal and migrating birds, migrating bats, insects, fish, and sea turtles are particularly impacted by ANL (Evans Ogden 1996 and citations therein). Migrating birds use the stars and moon for navigation during migrations. These birds can become disoriented when flying through a brightly lit area; this disorientation can lead to injury and/or death. Artificial night lighting also disrupts the behavior of fish and amphibians, and billions of moths and other insects are killed from the lights each year. ANL can also affect aquatic invertebrates that are prey for other animals. Some zooplankton migrate vertically in response to lighting. In the evening, they rise in the water column to feed on drifting microscopic plants (phytoplankton). When daylight approaches they migrate down to avoid predators. However, ANL may keep them from rising and feeding (Moore et al. 2000). Reduced predation on the phytoplankton can result in phytoplankton blooms which deplete the dissolved oxygen in the water and shade aquatic vegetation (Harder 2004). Reduced oxygen levels can then negatively affect fish or other organisms depending on dissolved oxygen in the water column.

Mitigation measures

64. The recirculated/final EIR should provide a delineation of areas with sensitive habitats that are expected to be directly or indirectly exposed to light levels of higher intensity (including increased sky glow) than existing ambient levels. The delineation should be on a large scale aerial photograph (a scaled figure). The recirculated/final EIR should evaluate the direct, indirect, and cumulative biological impacts resulting from the project-related ANL, based on the delineation, and should propose specific measures whose implementation would prevent an increase in existing ambient light levels in sensitive habitats.
65. To minimize the biological impacts from outdoor ANL, we recommend that design standards for all phases of development ensure that outdoor lighting throughout the project study area is minimized and that no project-related lighting falls outside the project boundaries, upon any habitat buffers, habitats, or open water. All lights, including street lights, pedestrian and bicycle path lighting, and any recreational lighting should be directed away from and fully shielded so as to not illuminate adjacent habitats. In addition, no external lighting of buildings (e.g., cosmetic lighting) or other structures should be permitted, no lighted building signs should be permitted beyond the first floor, and all commercial signage should be provided on monument signs rather than pole signs or on the sides of buildings.
66. Lighting proposed for the Signature Park (S-2) and the Shoreline Promenade (HP-3, HP-6, and HP-7) should be placed only where needed for human safety. Lights should be on low-standing (e.g., 2-foot tall) bollards, shielded, and flat-bottomed so illumination is directed downward onto the walkway and does not scatter. Low-pressure sodium bulbs that emit only a narrow range of yellow light should be utilized because monochromatic yellow light, which is not perceived as "natural" light by wildlife, minimizes ecological disruptions.

Increased Freshwater Input, Degraded Water Quality, and/or Erosional Surface Flows

67. The DEIR does not adequately describe or analyze the potential degradation of existing wetlands within and adjacent to the project site due to project-related changes in surface storm water flows, nor does it provide measures to prevent, or mitigation to offset, such degradation. The project-related storm water (freshwater) flows would be discharged into the seasonal wetland in the Sweetwater District (S-2), the F&G Street Marsh and its tidal tributary, the J Street Channel, Telegraph Creek, and the J Street Marsh. Grading in SP-1 and S-1 would increase water flows into Parcel SP-2 (season wetlands) and F&G Street Marsh, and there would be more storm drains draining into the J Street Channel and Telegraph Creek. Increases in storm water flows into relatively rare salt-water wetlands can result in a type-conversion to more common freshwater wetlands. In addition, depending on the velocity of the storm water discharges, the flows could disrupt the

morphology of the receiving waters/habitats by ongoing erosion. Over time, the discharges can seriously damage sensitive habitats. Increases in flows from impervious surfaces associated with urbanization can result in: a) stream bed scouring and habitat degradation; b) shoreline erosion and stream bank widening; c) loss of aquatic species; and d) decreased baseflow (USEPA 1999). Furthermore, the project-related increases in traffic will result in higher concentrations of vehicle-related contaminants (*e.g.*, copper, asbestos, hydrocarbons, and antifreeze) in the storm water flows.

We are particularly concerned about deleterious changes to the salt balance, morphology, hydrology, and water quality of the F&G Street Marsh and its tidal tributary because such changes can negatively affect future restoration of the F&G Street Marsh, and because the light-footed clapper rail has been known to reside there. Conversely, current storm water flows into the L-Marsh (HP-5) would be redirected to the street, potentially reducing water flows to the wetland and thereby also reducing the wetland habitat. While the DEIR acknowledges the expected changes in storm water flows, it does not quantify the changes in flow, nor does it identify the design and location of the best management practices (BMPs) for Phase I to avoid impacts associated with the post-construction surface flows. The recirculated/final EIR should include a thorough discussion of project-related changes in surface flows and how these changes would affect the existing wetlands within and adjacent to the project site.

Mitigation Measures

68. All storm water flows should be treated and filtered prior to entering existing wetlands and San Diego Bay to avoid the introduction of pollutants (*e.g.*, hydrocarbons, sediments, fertilizers, pesticides, and trash).
69. The site designs for the Proposed Project should minimize the project-related increase in dry and wet-weather surface flows, and integrate on-site BMPs that would attenuate the flows (prior to their discharge) to reduce their impacts on the morphology of sensitive habitats to which they ultimately discharge. Examples of BMPs to consider include appropriately sized grass swales and vegetated detention basins. Because these BMPs occupy space, their timely consideration of the requirements that apply to the project site pursuant to the numeric sizing criteria in the Municipal Storm Water Permit is necessary. All BMPs should be within the development footprint, outside of the buffers. The recirculated/final EIR should provide the location(s) and descriptions of the proposed construction and post-construction BMPs, and should discuss the long-term maintenance of the latter.

Marine Biological Resources and In-water Construction

70. To adequately evaluate marine biological resources and potential impacts to these resources, the recirculated/final EIR should:

- a. provide a figure indicating the different marine habitat classifications (*i.e.*, intertidal, shallow subtidal, moderate subtidal, deep subtidal, salt marsh, and eelgrass) within and adjacent to the project area;
 - b. provide a table that identifies the range of depth of different marine habitat classifications, including: (1) intertidal (+7.8 feet to -2.2 feet MLLW (mean lower low water)); (2) shallow subtidal (-2.2 MLLW to -12 feet MLLW); (3) medium subtidal (-12 feet MLLW to -20 feet MLLW), and deep subtidal (deeper than -20 feet MLLW) habitats; and
 - c. indicate the areas of intertidal habitat and shallow subtidal habitat that are/would be natural (*e.g.*, soft-bottom) vs. artificial (*e.g.*, rip rap, concrete) before and after project development. Soft bottom intertidal habitat provides foraging habitat for wading birds and shorebirds, including the federally listed endangered western snowy plover (*Charadrius alexandrinus nivosus*). Shallow subtidal habitat consisting of either unvegetated soft bottom areas or areas vegetated with eelgrass (*Zostera marina*) are considered significant habitats for birds (including the least tern and brown pelican), fish, benthic invertebrates, and other organisms (including the Pacific green sea turtle).
71. Section 4.9, *Marine Biology*, in the recirculated/final EIR should include a discussion of permanent and temporary losses of foraging habitat for birds that visually search for their fish prey and plunge-dive into the water to capture their fish. Foraging habitat is defined as open water containing suitable fish prey that is available for foraging by plunge-diving birds (*e.g.*, least terns and brown pelicans) by not being obstructed and/or covered by structures (*e.g.*, piers, docks, or boats). This is particularly significant resource at the project site due to its close proximity to the Sweetwater Marsh and South San Diego Bay Units of the Refuge and the Chula Vista Wildlife Reserve (*i.e.*, approximately 1 mile or less), where plunge-diving birds both nest and/or roost during their migration. Additionally, covering open water habitats with structures would reduce light availability in the water column and introduce hard substrate which would likely support a different species composition and biological community than the extant composition. In essence, there could be an ecological type conversion where structures are introduced. We recognize that there is a discussion of the permanent impacts to surface water foraging habitat in the Section 4.8, *Terrestrial Biology*, but the impacts to this resource resulting from in-water construction make it appropriate to include a discussion of these impacts in Section 4.9.

Mitigation measures

72. The Wildlife Agencies concur that increases in structures (*e.g.*, docks, wharfs, piers) covering the San Diego Bay should be offset (Mitigation Measures 4.8-7 and 4.8-8 in the

Section 4.8, *Terrestrial Biology*). Temporary and/or permanent reductions in foraging habitat for sight-foraging birds that feed on fish (e.g., least tern, brown pelican) should be avoided and minimized. We also recommend that a mitigation measure be added that requires that temporary reductions in foraging habitat due to in-water construction activities that result in increased turbidity (e.g., dredging, pile pulling, jetting, and driving) be conducted outside the breeding season of the least tern (April 1 to September 15) to avoid impacts to this listed species.

73. The Wildlife Agencies recommend that losses of intertidal habitat (*i.e.*, 0.03 acre anticipated from redevelopment of HW-3) be mitigated with creation of in-kind habitat and at a minimum 1:1 ratio. Impacts to pickleweed habitat (*i.e.*, salt marsh habitat) should be mitigated at a 4:1 ratio to be consistent with City's MSCP Subarea Plan. As such, Mitigation Measure 4.9-5A should be revised to include mitigation of 0.004 acre of pickleweed.
74. The Wildlife Agencies recommend that dredging activities be surrounded by silt curtains to minimize sedimentation and smothering of adjacent eelgrass.
75. The DEIR indicates that losses in the existing benthic community from dredging activities would be less than significant due to the rapid recolonization of the benthic community in the new area. The Wildlife Agencies request that the recirculated/final EIR provide documentation to support this conclusion. Absent such documentation, we recommend that the dredging activities be coupled with a benthic study to characterize (*e.g.*, rate and community composition) recolonization of the benthic community.

Hazards and hazardous materials/public safety (*i.e.*, contaminants)

76. The DEIR highlights areas where property owners are potentially liable for impacts of contamination. The DEIR notes that known contaminated sites must be remediated to the satisfaction of the Regional Water Quality Control Board, County of San Diego Department of Environmental Health, State Department of Toxic Substances and Disease Control (DTSC) and perhaps others. We would like to work with the above regulatory agencies to ensure that remedial actions at identified sites would be protective of ecological receptors. Such actions include consideration of ecological risk based cleanup goals for contaminated media, and ensuring that contaminated media that are on site do not migrate off site into ecologically sensitive areas such as San Diego Bay and neighboring marsh habitats, especially those in the NWR. In that regard, the recirculated/final EIR should address the following specific comments.
 - a. Mitigation for hazards posed by clean-up and construction operations should include the preparation and implementation of plans to prevent migration of contaminated material into environmentally sensitive areas. Migration paths of concern for ecological receptors include groundwater that may surface in marshes,

streams or San Diego Bay (especially at the sediment-water interface), and soil that may migrate off site via erosion and surface runoff. Contaminant levels that pose insignificant risk to human health, especially under the commercial/industrial use scenario, may still pose significant risk to ecological receptors, both in terrestrial and aquatic settings. Consequently, contaminant levels deemed to be safe for humans are not necessarily safe for ecological receptors, and measures to prevent off-site migration of hazardous contaminants should be planned and implemented even though risks to humans may not be significant.

- b. Actions being taken to address ecological hazards should be noted. For example, clean-up of Parcel HP-5 (*i.e.*, L Marsh) and any potentially contaminated areas should ensure that concentrations of contaminants in materials left on site and/or leaving the site(s) should not meet or exceed concentrations of risk to ecological receptors (*e.g.*, invertebrates, birds).
- c. Mitigation Measures 4.12-1, Item B, should mention ecological risks for areas that are to remain open and are being remediated to ecological risk-based goals (*e.g.*, the L Marsh or Unit HP-5). In Item B, replace “(*i.e.*, commercial, residential)” with “(*i.e.*, commercial, residential, ecological).”
- d. Contaminant levels suitable for ocean disposal may not be suitable for re-suspension in San Diego Bay. Accordingly, Mitigation Measures 4.5-4 and 4.9-6 should be revised by deleting the following text from part B: “If the sediment would be suitable for ocean disposal, no silt curtain shall be required.”

Consistency with the City of Chula Vista’s MSCP Subarea Plan

77. The proposed land exchange would bring lands into the City’s jurisdiction that were not considered in the development and approval of the City’s MSCP Subarea Plan. As such, take of listed species and impacts to covered species on those lands are not authorized by the MSCP. In order to bring those lands into the MSCP, development within the area to be annexed must be consistent with the MSCP and the City’s Subarea Plan. An amendment to the Subarea Plan and incidental take permit will be required (Section 5.3.1.2 of the City’s Subarea Plan). The recirculated/final EIR should incorporate this requirement and the applicant should begin working with the City and the Wildlife Agencies as soon as possible to start the amendment process.
78. Portions of Proposed Project lie within the boundaries of the City’s MSCP Subarea Plan and portions of the proposed land transfer that are currently within the Port’s jurisdiction would come under the jurisdiction of the City. Furthermore, the Proposed Project borders portions of the City’s MSCP Preserve and is surrounded by adjacent lands that lie within the boundaries of the City’s MSCP Subarea Plan. Some portions of Proposed Project site currently lie within the City and some portions of the Proposed Project site that are

currently under the Port's jurisdiction would come under the jurisdiction of the City with the proposed land exchange. Furthermore, the lands within the City are/would be within the boundaries of the City's MSCP Subarea Plan, and portions of the Proposed Project site are adjacent to the City's MSCP Preserve. As an important component of regional conservation planning efforts, the City's MSCP Subarea Plan provides a strong framework for how and where development and habitat conservation occurs within the City. Mitigation ratios established through the negotiations for habitat conservation plans (HCP)/NCCPs are generally lower than those in areas not subject to an HCP/NCCP because the planning assures that mitigation is conducted in a manner and at pre-determined locations agreed to by all parties to create a habitat preserve. The Port is not party to the MSCP or any other HCP/NCCP. We typically expect that the mitigation for project-related habitat losses within a jurisdiction with no HCP/NCCP would be provided at higher ratios than required by an HCP/NCCP to account for the lack of coordination provided by an HCP/NCCP. In this instance, we recommend that the habitat losses throughout the project site, regardless of jurisdiction, meet or exceed the mitigation ratios, guidelines, and standards required by the City's MSCP Subarea Plan to maintain consistency with its application to the on-site and adjacent areas within Plan.

79. The Wildlife Agencies recommend that vegetation classifications provided in Table 4.8-1 *Existing Vegetation Communities and Land Cover Types (acres)* and Figure 4.8-3 *Vegetation Communities and Land Cover Types* be consistent with the vegetation classification for the City's MSCP. The DEIR utilizes alternative vegetation classifications for some habitat types. For instance, coastal brackish marsh in the DEIR is classified as southern coastal salt marsh by the MSCP, seasonal pond in the DEIR is classified as disturbed wetland by the MSCP, and disturbed riparian in the DEIR is classified as disturbed southern coastal salt marsh by the MSCP.

Mitigation Measures

To assure consistency with the MSCP throughout the project site, we provide the following specific comments on the proposed mitigation measures.

80. In order to limit construction disturbance to raptors, we recommend that Mitigation Measure 4.8-1 be modified, as follows.

To ensure that no direct or indirect impacts to nesting raptors occur during construction (including clearing and grubbing), construction activities within the area of potential effect for nesting habitat should occur outside of the raptor breeding season (January 15 to July 31), or sooner if a qualified biologist demonstrates to the satisfaction of the Wildlife Agencies that all nesting activities are complete. If construction (other than vegetation clearing and grubbing) must occur during the breeding season, prior to initiating any construction-related activities,

pre-construction surveys must be performed by a City- or Port-approved (depending on the jurisdiction) biologist to determine the presence or absence of nesting raptors within 500-feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and its results submitted to the City or Port (depending on the jurisdiction) for review and approval prior to initiating any construction activities. If nesting raptors are detected, a mitigation plan shall be prepared by a City- or Port-approved biologist and submitted to both the City and Port for review and approval. The applicant shall implement the mitigation plan to the satisfaction of the City and Port to ensure that disturbance of breeding activities is reduced to a level less than significant. A bio-monitor must be on site during construction until all young have fledged to minimize construction impacts and ensure that no nests are removed or disturbed and no nesting activities are disrupted.

81. In order to limit construction disturbance to burrowing owls, we recommend that Mitigation Measure 4.8-2 be modified, as follows:

To ensure that no direct or indirect impacts to nesting burrowing owls occur during construction (including clearing and grubbing), construction activities within the area of potential effect for nesting habitat should occur outside of the burrowing owl's breeding season (April 15 to July 31), or sooner if a qualified biologist demonstrates to the satisfaction of the Wildlife Agencies that all nesting is complete. If construction (other than vegetation clearing and grubbing) must occur during the breeding season, prior to initiating any construction-related activities, pre-construction surveys must be performed by a City- or Port-approved (depending on the jurisdiction) biologist to determine the presence or absence of active burrows within all suitable habitat. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and its results submitted to the City or Port (depending on the jurisdiction) for review and approval prior to initiating any construction activities. If an active burrow is detected during the breeding season, a mitigation plan shall be prepared by a City- or Port-approved biologist and submitted to both the City and Port for review and approval. The applicant shall implement the mitigation plan to the satisfaction of the City and Port to ensure that disturbance of breeding activities is reduced to a level less than significant. Construction setbacks of 300 feet from occupied burrows shall be implemented until the young are completely independent of the nest. A bio-monitor must be on site during construction until all young have fledged to minimize construction impacts and ensure that no nests are removed or disturbed

and no nesting activities are disrupted. If an active burrow is found outside of the breeding season, or after an active nest is determined to no longer be active by a qualified biologist, the burrowing owl would be relocated in coordination with the Wildlife Agencies.

82. In order to limit construction disturbance to migratory birds, we recommend that Mitigation Measure 4.8-3 be modified, as follows:

To ensure that no direct or indirect impacts to nesting migratory birds occur during construction (including clearing and grubbing), construction activities within the area of potential effect for nesting habitat should occur outside of the general avian breeding season (January 15 to August 31), or sooner if a qualified biologist demonstrates to the satisfaction of the Wildlife Agencies that all nesting is complete. If construction (other than vegetation clearing and grubbing) must occur during the breeding season, prior to initiating any construction-related activities, pre-construction surveys must be performed by a City- or Port-approved (depending on the jurisdiction) approved biologist to determine the presence or absence of nesting birds within 300 feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and its results submitted to the City or Port (depending on the jurisdiction) for review and approval prior to initiating any construction activities. If nesting birds are detected, a mitigation plan shall be prepared by a City- or Port-approved biologist and submitted to both the City and Port for review and approval. The applicant shall implement the mitigation plan to the satisfaction of the City and Port to ensure that disturbance of breeding activities is reduced to a level less than significant. A bio-monitor should be on site during construction until all young have fledged to minimize construction impacts and ensure that no nest is removed or disturbed and no nesting activities are disrupted.

83. As indicated on page 3-17 of the DEIR, "The project site is situated entirely within the Chula Vista Coastal Zone." To be consistent with the City's MSCP Subarea Plan, recirculated/final EIR should require that all impacts to riparian scrub be mitigated at a 3:1 ratio, not 2:1 as indicated in Mitigation Measures 4.8-9 and 4.8-10.
84. The following comments relate to the Proposed Project's consistency with the City's MSCP Preserve adjacency guidelines. The recirculated/final EIR should reflect that application of these guidelines to all parcels adjacent to City's MSCP Preserve (*i.e.*, Parcels SP-1, S-4, SP-2, S-2A, HP-11, HP-6, and HP-7), as well any parcels adjacent to sensitive habitats [Sweetwater Marsh and South San Diego Bay Units of the Refuge, San

Diego Bay, the mudflats west of the Sweetwater District, F&G Street Marsh and its associated tidal inlet, L Marsh (HP-5), J Street Marsh, Telegraph Creek, and Chula Vista Wildlife Reserve]. For purposes of this letter, all of the sensitive habitats listed in the brackets above are considered Preserve.

- a. In parcels adjacent to Preserve areas, permanent fencing (*i.e.*, a minimum six-foot tall black vinyl chain link fence) should be placed along the boundary between the ecological buffer and the Proposed Project use area. Stands of native cacti, for example as proposed on page 4.8-71 of the DEIR, cannot effectively keep humans and domestic animals out of the Preserve areas.
- b. Mitigation Measure 4.8-6 A. should be modified to read as follows.

Construction related noise shall be limited adjacent to the Sweetwater Marsh and South San Diego Bay Units of the Refuge, F&G Street Marsh, the mudflats west of the Sweetwater District, and J Street Marsh during the general avian breeding season of January 15 to August 31. During the avian breeding season, noise levels from construction activities must not exceed 60 dB(A) L_{eq} , or ambient noise levels if higher than 60dB(A). Before any construction begins, a qualified acoustician shall prepare and submit to the Port and City for review and approval an acoustical analysis to determine the ambient noise level, anticipated noise level of construction, and whether noise attenuation measures will need to be implemented to reduce the expected noise level to below 60dB(A). If noise attenuation measures or modifications to construction activities are unable to reduce the noise level below 60dB(A), either the applicant must immediately consult with the Wildlife Agencies to develop a noise attenuation plan or construction in the affected areas must cease until the end of the breeding season.

- c. The first sentence of Mitigation Measure 4.8-6 B should read as follows.

To reduce the potential for raptors to perch within the landscaping and hunt sensitive bird species from those perches, the following design criteria will be identified in the CVBMP master landscape plan and incorporated into all building and landscape plans with a line-of-sight to the City's MSCP Preserve, buffer zones, and on-site open space.

- d. Mitigation Measure 4.8-6 F indicates that all landscaping plans must ensure that no plants listed in Appendix N of the City's MSCP Subarea Plan are planted in

the project area. However, when referring to landscaping, the City's MSCP Subarea Plan makes reference instead to the "Wildland/Urban Interface: Fuel Modification Standards," or Appendix L. of the Subarea Plan. In addition, it specifies that no invasive non-native plant species should be introduced into areas immediately adjacent to Preserve areas. All project-related landscaping plans should include, to the maximum extent practicable, native plants that are compatible with native vegetation located in the ecological buffers and/or MSCP Preserve.

- e. Mitigation Measure 4.8-6 G should provide more specific language as to how the Proposed Project would minimize the release of toxins, chemicals, petroleum products, exotic plant materials, and other pollutants that might degrade or harm the natural environment or ecosystem processes within the Preserve. As discussed above (and as mentioned in Comment 67), it is unclear what BMPs would be used to prevent the release of such pollutants and how the project would meet NPDES (National Pollution Discharge Elimination System) standards and the requirements of the City's Standard Urban Storm Mitigation Plan.
- f. Mitigation Measure 4.8-6 J should specify that all trash cans installed on the project site would be animal- (non-human) proof. The proposal to provide trash cans with lids is not enough of a deterrent to scavenging animals.
- g. Table 4.8-6 *Mitigation Required for Significant Impacts to Vegetation Communities and Land Cover Types – Port Lands (acres)* should include the following revisions.
 - i. The mitigation ratio for disturbed seasonal pond (*e.g.*, classified as disturbed wetland per the City's MSCP) should be increased from 1:1 to 2:1 to be consistent with the City's MSCP Subarea Plan.
 - ii. Impacts and mitigation for losses to non-native grassland and other raptor foraging habitat (*i.e.*, habitat in the Sweetwater District) should be included in the table consistent with the City's MSCP. The mitigation ratio for losses to non-native grassland and other raptor foraging habitat is 0.5:1 if mitigated inside Preserve-designated land and 1:1 if mitigated outside preserve-designated land. As explained in Comment 29, mitigation for project-related losses of raptor foraging habitat should occur at a ratio of 1:1 away from the project site.
 - iii. The acreage of permanent impacts to southern coastal salt marsh during Phase II should be increased from 0.04 to 0.10 to be consistent with the text on page 4.8-75 of the DEIR. The acreage of mitigation provided for

this impact should be appropriately revised to 0.4 acre, as written under Mitigation Measure 4.8-9.

- h. Mitigation Measure 4.8-9 should be revised to include mitigation for loss of non-native grassland, disturbed habitat that is raptor foraging habitat (*i.e.*, Sweetwater District), and coastal sage scrub in Phase III.
 - i. Mitigation Measure 4.8-11 and Table 4.8-9 should be revised to indicate that impacts to Corps jurisdictional waters should be mitigated at a 2:1 ratio to be consistent with the City's MSCP.
85. The DEIR identifies temporary impacts that the project would have on sensitive habitats within the project footprint and indicates that all temporary impacts would be mitigated at 1:1. This is inconsistent with the guidelines established by the City's MSCP Subarea Plan, which requires the same mitigation for temporary and permanent impacts. Therefore, the recirculated/final EIR should account for appropriate temporary impact mitigation according to the mitigation ratios listed in Tables 5-3 and 5-6 of the MSCP Subarea Plan.
86. The recirculated/final EIR should include a map that clearly depicts: a) the jurisdictional boundaries before and after the land exchange; b) vegetation communities within both areas; and c) sensitive species points that are present in both the Port and City's jurisdictions after the land exchange. This will allow a determination of the Proposed Project's effects on habitats and species within each jurisdiction. This information will also be necessary to process the required amendment to the City's MSCP Subarea Plan and incidental take permit.

Growth Inducement

84. The Growth Inducement discussion in the DEIR focuses on the economic effects of the Proposed Project, but ignores the significant effects to the environment that could result from growth in the surrounding area, that is, growth that is related to redevelopment of the subject property. The recirculated/final EIR should expand this section to address the significant effects on the environment, both individually and cumulatively, from growth stimulated by the subject project (*i.e.*, growth that would likely not occur but for the approval and implementation of the Chula Vista Bayfront Master Plan). An evaluation of the effects on air and water quality as a result of this new growth should be provided, as well as a discussion of the potential for even greater impacts (*e.g.*, night lighting, human and pet intrusion, increased noise levels) than the Proposed Project alone would cause to nearby sensitive biological resources.

Mitigation Measure

85. Impacts associated with the growth-inducing effects of project implementation could be reduced if the appropriate planning documents that regulate development in the areas immediately surrounding the project are amended to include specific development and design criteria for new development. Such criteria would include: restrictions on lighted signage; requirements for fully shielded street and other outdoor lights; restrictions on uses that could generate excessive noise impacts, particularly at night; building design standards that address height, lighting, and window design; and requirements for adequately sized open space and public recreation areas to accommodate new residents and their pets.

Unavoidable and Irreversible Significant Environmental Effects

86. The Wildlife Agencies do not agree that implementation of the mitigation measures identified in the DEIR would reduce the impacts to biological resources to a level less than significant. Therefore, this section in the recirculated/final EIR should discuss the unavoidable and irreversible effects that implementation of the Proposed Project would have on the sensitive coastal resources that occur within and adjacent to the project boundaries.

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STATE CLEARINGHOUSE

Subject: Comments on the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project, City of San Diego, San Diego County, California (UPD No. EIR-2015-115; SCH No. 2015081013)

Dear Ms. Manaois:

The Department of Fish and Wildlife (Department) has reviewed the San Diego Unified Port District's (Port District's) San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (proposed project) Draft Environmental Impact Report (DEIR). The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the proposed project (California Environmental Quality Act, [CEQA] Guidelines § 15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (CESA; Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.*

The proposed project consists of (1) an ordinance establishing a Port District Code section (proposed ordinance) to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the Port District or that are operated by the Port District's tenants, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the Port District. Existing fireworks display events are launched from barges, piers, and/or flight decks. The proposed new fireworks displays would occur year round and are anticipated to last between 3 to 10 minutes in duration for non-Fourth of July displays and 15 to 20 minutes for Fourth of July displays. The new fireworks displays are proposed to be launched from barges within the San Diego Bay, and would be governed by the proposed ordinance. All existing and proposed new fireworks display events that either require a discretionary action by the District or those operated by the District's tenants would be subject to all applicable federal, state, and local laws and regulations governing fireworks as well as any additional requirements set forth in the proposed ordinance.

The Department offers the following comments and recommendations to assist the Port District in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources.

General Compatibility

Given the concentration of biological resources within the project area, the San Diego Bay National Wildlife Refuge, the Sweetwater Marsh Refuge Unit, the South San Diego Bay Refuge Unit, and other conservation efforts including federal funding associated with National City and the south bay, the Department is concerned with the compatibility and appropriateness of adding fireworks displays to the south bay that have the potential to adversely impact the region's rich natural resources. The DEIR's analysis should carefully examine the need of the proposed expansion, and consider the mitigation and monitoring requirements necessary to protect south bay habitats and their residents.

San Diego Fireworks Display EIR Notes

The DEIR should include an analysis of direct and indirect impacts to all avifauna nesting within National City and the south bay, including D-Street Fill, Sweetwater Marsh, F and G Street Marshes, J Street Marsh, Paradise Marsh, Chula Vista Wildlife Reserve, and Silver Strand State Beach. The analysis should focus on the area's importance as a regional and international site utilized for nesting, roosting, foraging, and as a migratory stopover within the Pacific Flyway for common and designated sensitive species. The proposed project areas, particularly those proposed within the vicinity of Ecological Refuges and other open spaces within the south bay, host thousands of resident and migratory birds that could be adversely impacted by the proposed project.

The Department believes that based on the available literature including unpublished reports, and other limited publications, common and sensitive species including, but not limited to light-footed Ridgway's rail (*Rallus longirostris levipes*; a CESA and Endangered Species Act [ESA] endangered species, and a State Fully Protected Species [FPS] under Fish and Game Code § 3511); California least tern (*Sternula antillarum browni*; a CESA and ESA endangered species and FPS); Belding's savannah sparrow (*Passerculus sandwichensis beldingi*; a CESA endangered species); western snowy plover (*Charadrius alexandrinus nivosus*; ESA threatened species and a State Species of Special Concern [SSC]); black skimmer (*Rynchops niger*; a SSC); elegant tern (*Thalasseus elegans*); Caspian tern (*Hydroprogne caspia*); double-crested cormorant (*Phalacrocorax auritus*); northern harrier (*Circus cyaneus*; a SSC); and osprey (*Pandion haliaetus*) are likely to exhibit a physiologic response to fireworks-generated flash and noise. Page 4.3-28 of the DEIR identifies that "[t]he flash and noise from the proposed new fireworks display events are [emphasis added] expected to generate physiologic response of stress within birds." However, later in the DEIR it is concluded that "the proposed new fireworks display events are not anticipated to result in any long-term or permanent substantial adverse effects on avian species because temporary disturbance from noise and light would be short term and infrequent and would not result in direct mortality of birds, a decrease in productivity, or long-term changes in behavior (e.g., colony abandonment)" (Port District, 2017; p. 4.3-31), concluding that no significant impact would occur. The Department does not believe that the analysis provided in the DEIR adequately supports the conclusion that fireworks displays would not directly impact sensitive avian species throughout San Diego Bay and Imperial Beach. For example, while certain colonies (that are routinely exposed to loud noise) may not be abandoning nests or chicks, vocalizations, flushing behaviors, and other movements indicated that these birds were stressed by the fireworks displays and loud noises they produce (Port

District, 2017). It is unknown how the stress responses elicited from cumulative fireworks displays affect species' energy expenditure, their underlying health, or if the stress affects subsequent nesting attempts. The DEIR suggests that because they have not historically been exposed to continuous loud noise, south bay avian colonies could be comparatively more sensitive to fireworks displays. Additionally, while behavioral observations of California least terns and western snowy plovers in response to fireworks displays are scant, studies for light-footed Ridgway's rail and Belding's savannah sparrow do not exist. For these reasons, the Department continues to stress the importance that the project include a comprehensive mitigation strategy, including a robust monitoring protocol, that minimizes sensitive species' exposure by maximizing spatial buffers from the fireworks display source (e.g., barge, pier, etc.) and sensitive receptors (i.e., nesting and critical roosting and foraging grounds for avian species).

Monitoring

In our comments on the Notice of Preparation for the proposed project (September 8, 2015) we recommended that for sites likely affected by fireworks displays, a monitoring protocol be developed as part of a comprehensive mitigation strategy. The DEIR does not include a monitoring protocol as recommended. Given the data gaps regarding the effects of fireworks displays on sensitive avian species, the DEIR should include an adaptive management plan requiring ongoing monitoring of sensitive receptor sites for individual fireworks displays (e.g., known sensitive species nesting and/or roosting sites). The adaptive management plan should include specific mitigation strategies to further minimize impacts to sensitive receptors (e.g., increase buffer size, temporal restrictions, etc.) and measures to gradually reduce the ongoing monitoring (as a component of the adaptive management plan) should the monitoring demonstrate that the mitigation measures are successful. The Port District should confer with the Department to reduce the interval or intensity of ongoing monitoring requirements. The Department offers the monitoring recommendations below (adapted from U.S. Fish and Wildlife Service [Service] recommendations):

1. Sensitive habitats (e.g., nesting and roosting sites within 1.2 mile of the fireworks) including areas within the vicinity of where spectators may congregate should be surveyed by a qualified biologist prior to, during, and following the fireworks display. Where appropriate, and when less intrusive than direct observation, nest cameras may be used to monitor sites that have no terrestrial or aquatic access. Monitoring activities themselves should not result in undue harassment. At a minimum, monitors should record and/or perform the following:
 - a. site location, name of monitor, date and time of observations;
 - b. number of adults, nests, and chicks observed within ½ mile of spectator viewing areas;
 - c. species behavior prior to, during, and post fireworks displays;
 - d. sources of stressors (e.g., light, noise, trespass, debris);
 - e. foraging behavior no sooner than 48 hours prior to and no later than 24 hours following fireworks displays;
 - f. counts of human and dog tracks intersecting with symbolically fenced areas before and after the fireworks event;
 - g. counts of persons within access-controlled areas;
 - h. counts of litter items within symbolically fenced areas before and after the fireworks event;

- i. counts of illegal pyrotechnics;
- j. recommendations, as applicable, to further minimize physiologic response to fireworks displays (e.g., identify known, new, or persisting management needs). Monitoring observations should be evaluated by the Port District to increase buffer distances, further limit noise levels or other actions as appropriate.

The Port District should:

2. Provide monitoring data directly to the Department.
3. Ensure sensitive habitats are symbolically fenced and posted off-limits during events. Conduct repairs to symbolic fencing of any damaged or missing sections of fencing prior to fireworks display permit issuance.
4. Close parking lots and beach access points in the vicinity of sensitive resources, as appropriate.
5. Provide adequate numbers of monitors and patrols (commensurate with anticipated number or spectators, and exposure/accessibility of sensitive resources) prior to spectators congregating and continuing until spectators disperse.
6. Monitor noise at sensitive receptor sites.
7. Ensure monitors and other enforcement personnel receive accurate information regarding the location of sensitive resources.
8. Prohibit pets on beaches and within sensitive resource areas.

Compliance

Monitors should have direct communication with patrols (e.g., San Diego Harbor Police, law enforcement, and private security) to effectively prevent inadvertent and unauthorized impacts to sensitive biological receptors. The DEIR identifies that fireworks displays not only elicit a physiological reaction from sensitive avian species, but that there are additional indirect effects associated with trespass from spectators accessing beach and dune areas closed for breeding and roosting. The Department commends the Port District for increasing the Harbor Police Department presence during fireworks displays, and the DEIR should memorialize the following DEIR language as a mitigation measure of future fireworks display permits. "*Consistent with its current operational practices, the Harbor Police Department would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events*" (Port District, 2017; p. 4.3-33). Additionally, the Port District should coordinate with staff from the Harbor Police Department to determine the number of patrols necessary to protect biological resources and to identify specific/targeted enforcement areas of sensitive resources where unauthorized spectating (e.g., beach access or beaching/mooring) is prohibited.

Environmentally Superior Alternative

The DEIR is not clear how the Quiet Fireworks Display Alternative (e.g., Environmentally Superior Alternative) fails to meet the project objectives. Per the DEIR, "... the Quiet Fireworks Display Events Alternative would not meet the fundamental project objectives" (Port District, 2017; p. ES-10). Of the alternatives analyzed by the DEIR, the Quiet Fireworks Display Alternative best aligns with protecting sensitive natural resources within the immediate proximity of firework displays (e.g., known nesting sites for California least tern, light-footed Ridgway's rail, Belding's savannah sparrow, western snowy plovers, etc.). The DEIR describes four (4) project objectives.

Objective one. Objective one is to develop a Port District ordinance that establishes a Port District Code section with policies and performance standards, for fireworks display events that require a discretionary action by the Port District or those firework display events operated by the Port District's tenants. The Quiet Fireworks Display Alternative would not impede the District's ability to establish policies; conversely, it would assist the Port District by providing specific performance standards that are both measurable and enforceable.

Objective two. The Quiet Fireworks Alternative fulfills project objective two by allowing "...for the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach..." (Port District, 2017; p. 3-2). Furthermore, the Port District is presented with an opportunity to educate local communities regarding San Diego's unique biological resources and recognize the protective measures that the District and the community collectively take. Communal resources can foster a sense of hometown appreciation—achieving objective two by "...providing a popular and region-wide way to celebrate and express civic pride..." while also facilitating fireworks displays.

Objective three. Project objective three seeks to allow "...the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach...." (Port District, 2017; p. 3-2). The Quiet Fireworks Alternative would not impede the occurrence of current or future fireworks displays and unequivocally "...considers the health, safety, and welfare of people, property, and the environment..." (Port District, 2017; p. 3-2).

Objective four. Finally, there is no evidence that the Quiet Fireworks Alternative fails to achieve project objective four, which aims "[t]o continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available" (Port District, 2017; p. 3-2). Nothing within the Quiet Fireworks Alternative suggests that access to fireworks displays would be limited beyond existing public safety, right of access, or other applicable restrictions.

Regardless of the selected project alternative, acousticians should be utilized to monitor the actual sound levels generated during these events in relationship to sensitive biological receptor sites. Point monitoring of sensitive biological receptors should be made a requirement for each firework display permit until it can be demonstrated that the existing or additional events do not adversely impact these receptor sites.

Alternative 3 – No Salute Fireworks Alternative

The Department appreciates the consideration of project alternatives intended to reduce the noise and light impacts to sensitive receptors, however, Alternative 3 allows fireworks that are equally loud as a typical 3-inch "salute". "The No Salute Fireworks Alternative would have the same characteristics as all of the fireworks display events that compose the proposed project, including the same total pounds of fireworks per event (as outlined in Table 3-2 in Chapter 3, *Project Description*), but would prohibit the use of salute fireworks and limit the noise produced by all fireworks during fireworks display events to a maximum of 140 dB" (Port District, 2017; p. ES-9). Under Alternative 3, fireworks noise would not be minimized below the typical salute fireworks the DEIR describes as being prohibited. As stated in the DEIR, salute fireworks are specifically designed to be loud and bright and "[w]hile the noise level of these fireworks varies by type, a typical linear (unweighted) peak noise level directly below a 3-inch salute exploding at

its normal altitude is 140 decibels (dB) (Journal of Pyrotechnics, Inc. 2012)." Therefore the effect of Alternative 3 only limits fireworks that exceed the typical noise generated by current fireworks and/or fireworks specifically labeled as salute fireworks.

Impacts to Nursery Sites

The proposed project has the potential to impact various nursery sites (i.e., avian nesting sites). Based on a literature review of relevant information, the U.S. Fish and Wildlife Service's *Guidelines for Managing Fireworks in the Vicinity of Piping Plovers and Seabeach Amaranth on the U.S. Atlantic Coast* (USFWS, 1997) is a guidance document that evaluates impacts on tern species. Absent updated and site-specific information, the Service's guidelines serve as the best available science for minimizing impacts to terns and plovers. With regard to selecting firework shell size, the Department's literature review suggests a firework display's impacts on avian species is associated the noise and light and not necessarily associated with the shell size of a given firework. Edits below suggest uncoupling firework shell size from the recommended avian buffer. To partially mitigate noise impacts to avian nesting and/or roosting sites the text of MM-NOI-1: *Implementation of Noise-related Conditions of the Proposed Ordinance* (p. ES-41) should be modified accordingly (deletions in ~~strikeout~~ and additions in ***bold italics***):

MM-NOI-1: Implementation of Noise-Related Conditions of the Proposed Ordinance.

The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1.2) mile from any federally or state-listed avian species nesting ***sites***:

1. Location. Fireworks display events shall be located not less than one ***and two-tenths*** (1.2) mile from any federally, or state-listed ***or other sensitive*** avian species nesting colony.
2. Salutes. Fireworks display events shall not use concussion type, non-color shells such as "salutes" or "reports" during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display). ***Concussion fireworks (e.g., Salutes or Reports) shall not exceed 120 linear (unweighted) peak sound pressure level as measured directly under the shell burst occurring at its normal altitude, using a Type 1 sound measuring device with a free-field microphone at a height of 1 meter above the ground.***

Debris

Despite Mitigation Measure MM-BIO-1, the proposed project could cause a considerable amount of plastic and other non-biodegradable materials to fall within San Diego Bay. Mitigation Measure MM-BIO-1 does not fully mitigate the potential for ingestion of firework byproducts that could harm green sea turtles, marine mammals, and/or avian species. Specifically, MM-BIO-1 (d)(2)(B) only prohibits fireworks with plastic casings or non-biodegradable inner components

exceeding five percent of the firework's mass (Port District, 2017; p. ES-16). The proposed addition of Chula Vista Bayfront firework displays alone could cause an additional 34.2 pounds of plastic and other non-biodegradable byproducts to fall directly within San Diego Bay¹. The DEIR should present the total amount of debris deposited within San Diego Bay that could be caused from existing fireworks shows, and newly proposed additions (e.g., National City and Chula Vista shows) within the DEIR. To the extent feasible, MM-BIO-1 should be revised to prohibit the use of non-biodegradable materials.

Mitigation Measure MM-BIO-1(8), (9), and (10), and MM-WQ-1 should specify that collected firework-generated trash and debris should be weighed dry, not wet, to better achieve a proportional collection weight commensurate with the weight of introduced debris. Mitigation Measure MM-BIO-1(8), (9), and (10) should specify that weight criteria must be fulfilled using firework-generated debris only.

To mitigate impacts associated with increased debris associated with boating activities and increased foot traffic (see Impact-BIO-3, Impact-BIO-4, Impact-BIO-8, and Impact-C-BIO-1) associated with spectators, Mitigation Measure MM-BIO-1 should require the fireworks organizer to collect incidental spectator-generated trash. To accomplish this, the Department recommends the following is incorporated in the DEIR as enforceable mitigation measures for future fireworks display permits:

- A) A refundable deposit fee, based on the number of anticipated spectators (e.g., per capita) paid by the fireworks organizer. The refundable deposit fee should be an inflation-adjusted amount to fund two Port District or respective City cleanup personnel, equipment (e.g., truck, boat, nets, bags, personal protection equipment, debris disposal fees, etc.) per 500 spectators. The refundable deposit should be released or prorated based on the Port District's and hosting-city's satisfaction with firework organizer's cleanup.
- B) To defray potential costs borne by the firework organizer and/or hosting-city, firework organizer and Port District shall implement Mitigation Measure MM-BIO-2(5) to include daily announcements through digital/social media in conjunction with physical signage and/or press releases. MM-BIO-2 should be revised to require educational programs for each event designed to minimize debris, and prohibit impacts to sensitive resources (e.g., nesting or roosting sites, green turtle foraging areas, and eel grass beds).
- C) While MM-BIO-2 requires a minimum of two "...professional security guards to direct persons away from and discourage trespass..." (Port District, 2017; p. ES-22) the number of required security guards should be based on the number of spectators, potential threat to sensitive areas (e.g., fenced vs. unfenced habitats) and mode of spectator access (e.g., land vs. aquatic, or both). Two security guards are inadequate for most locations and the DEIR does not specifically require boat patrols. MM-BIO-2 should be revised to provide security requirements based on site sensitivity and include provisions to increase Harbor Police patrols funded by the firework organizer and/or cooperating local agency.

¹ Based on the DEIR's Table ES-1 *Proposed New Fireworks Display Events Requiring a Future Discretionary Action by the District.*

Ms. Wileen Manaois
Real Estate Development Department, San Diego Unified Port District
May 2, 2017
Page 8 of 8

We appreciate the opportunity to comment on the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events DEIR. Questions regarding this letter should be directed to Eric Weiss at (858) 467-4289, or eric.weiss@wildlife.ca.gov.

Sincerely,



Gail K. Sevens
Environmental Program Manager

ec: State Clearinghouse, Sacramento
Sandy Vissman, U.S. Fish and Wildlife Service

References

California Department of Fish and Wildlife (CDFW). 2016. California Least Tern Breeding Survey 2015 Season. March 30, 2016.

Port of San Diego. March, 2017. Draft Environmental Impact Report, San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project. Prepared by ICF.

U.S. Fish and Wildlife Service. 1997. Guidelines for Managing Fireworks in the Vicinity of Piping Plovers and Seabeach Amaranth on the U.S. Atlantic Coast.



EDMUND G. BROWN JR.
GOVERNOR May 2, 2017

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

RECEIVED

MAY 04 2017

SAN DIEGO UNIFIED
PORT DISTRICT
REAL ESTATE

Wileen Manaois
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

Subject: San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
SCH#: 2015081013

Dear Wileen Manaois:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on May 1, 2017, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

**Document Details Report
State Clearinghouse Data Base**

SCH# 2015081013
Project Title San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
Lead Agency San Diego Unified Port District

Type EIR Draft EIR
Description The project consists of 1) an ordinance establishing a District Code section to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront requiring a discretionary action by the District or that are operated by the District's tenants, and 2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District. Discretionary actions for fireworks display events that may require District approval include, but are not limited to, the following: Sponsorship agreement; special event permit; lease and lease amendment; tideland use and occupancy permit; right of entry permit; coastal act categorical determination of exclusion; or coastal development permit.

Lead Agency Contact

Name Wileen Manaois
Agency San Diego Unified Port District
Phone 619 686 6282 **Fax**
email
Address 3165 Pacific Highway
City San Diego **State** CA **Zip** 92101

Project Location

County San Diego
City San Diego, Chula Vista, Coronado, Imperial Beach
Region
Lat / Long 32° 41' 17" N / 117° 8' 23" W
Cross Streets Shelter Island Dr., N. Harbor Dr., Harbor Dr., Glorietta Blvd, Seacost Dr.
Parcel No. 017-032, 061-022, 021-022

Township	Range	Section	Base
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Proximity to:

Highways I-5, SR 75, 54, 15, 163
Airports SD Int'l
Railways BNSF, MTS
Waterways San Diego Bay, Pacific Ocean, Sweetwater River
Schools Cabrillo, Perkins, MarVista
Land Use Commercial Recreation, Park/Plaza, Specialized Berthing, Public Fishing Pier, and Vista Area. Partially outside port master plan

Project Issues Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Other Issues; Aesthetic/Visual; Agricultural Land

Reviewing Agencies Resources Agency; Department of Boating and Waterways; California Coastal Commission; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 11; Regional Water Quality Control Board, Region 9; Native American Heritage Commission; Public Utilities Commission; State Lands Commission

**Document Details Report
State Clearinghouse Data Base**

Date Received 03/17/2017

Start of Review 03/17/2017

End of Review 05/01/2017

Response to Comment C-1

The comment notes the State agencies that received the Draft EIR for comment and the date the comment period closed, and includes one attached letter from USFWS and one attached letter from the California Department of Fish and Wildlife (CDFW). The comment states that these comment letters were received by the State Clearinghouse after the end of the state review period, which ended on May 1, 2017. In addition, the comment notes that the project has complied with the State Clearinghouse review requirements for the Draft EIR pursuant to CEQA. A letter from the State Clearinghouse that was received on May 4, 2016 is included as an attachment to this comment letter. This comment letter was received on May 8, 2016, and therefore replaces the previous letter from State Clearinghouse.

The District appreciates the Office of Planning and Research's coordination of the Draft EIR. As indicated, two comment letters were received by the State Clearinghouse. The responses to these individual comment letters are provided under Comment Letter B (USFWS) and Comment Letter E (CDFW).

4.4.4 Comment Letter D: California Coastal Commission

CALIFORNIA COASTAL COMMISSION

SAN DIEGO AREA
 7575 METROPOLITAN DRIVE, SUITE 103
 SAN DIEGO, CA 92108-4421
 (619) 767-2370



May 1, 2017

San Diego Unified Port District
 Real Estate Development Department
 3165 Pacific Hwy
 San Diego, CA 92101

Subject: Comments on the Draft Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project

Dear Ms. Manaois:

D-1 | Commission staff appreciates the opportunity to review and provide comment on the above-referenced environmental document which was received by our San Diego District Office on March 20, 2017. The Commission’s ecologist, Dr. Laurie Koteen, has conducted a review and offers the following comments regarding the Draft Environmental Impact Report (“DEIR”), dated March 2017, for the proposed project which consists of: (1) an ordinance establishing a District Code section (proposed ordinance) to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District’s tenants, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District.

D-2 | There are many potential concerns raised by the DEIR for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Event. Of primary concern to Commission staff are the biological impacts from excessive noise, light, chemical pollutants and firework debris on birds, marine mammals, fish and other wildlife.

D-3 | Overall, staff views fireworks displays as a potentially impactful activity that should be minimized to a few events a year, and very carefully located in areas likely to have the lowest impacts on birds, sensitive habitats and marine life. Fireworks should be scheduled outside of nesting periods, which generally span from February through September, with the exception of the fourth of July. In addition, we have the following comments:

D-4 | • The DEIR should contain greater analysis from the literature on studies documenting impacts of fireworks on birds and marine mammals in particular.

D-5 | • The DEIR presents a single project without an evaluation of alternatives based on location. The only alternatives evaluated are no fireworks, quiet fireworks, and no “salute” fireworks. Alternatives should also be considered that evaluate impacts of fireworks in different locations in addition to noise impacts. The

- D-5 cont. [decibel threshold of 140 dB is very high and a lower threshold should be considered as well.
- D-6 [
 - To the extent that fireworks can be made of materials with reduced toxicity and more complete combustion of each firework in the air, those avenues should be pursued.
- D-7 [
 - Each individual proposed location for firework launches must be evaluated in light of the sensitive resources and species in the immediate vicinity. An area of impact around each potential launch site should be identified based on the expected impact horizon (separately evaluated for noise, light, debris and pollutants). The sensitive species and resources around each site should be carefully mapped, and impacts evaluated in light of the specific species and habitats in each location. Those areas where sensitive species are concentrated should be avoided completely.
- D-8 [
 - Human crowd management should also be considered. Large crowds can also impact wildlife and prompt avoidance behaviors and stress. The stress of the large human presence will be felt on top of the stress of the fireworks themselves, elevating the cumulative stress to wildlife. Crowds in the boats in the water must also be considered, and may need to be limited to certain densities.
- D-9 [
 - Fireworks should not occur on consecutive nights in the same location, or if this is to occur, cumulative impacts of multiple nights must be considered.
- D-10 [
 - A thorough discussion of mitigation of unavoidable impacts is lacking and should be developed based on specific projected impacts for specific locations, species and habitats.
- D-11 [
 - Special attention must be paid to potential impacts to sensitive species including the California Least tern, the Western snowy plover, Belding's Savannah sparrow, Ridgeway's rail, and sea turtles, and any others not listed here.
- D-12 [Thank you again for the opportunity to provide review and comment on the proposed project. If you have any questions or require further clarification, please do not hesitate to contact me at the above office.

Sincerely,



Melody Lasiter
Coastal Program Analyst

Cc (copies sent via e-mail):
Karl Schwing (CCC)
Deborah Lee (CCC)
Laurie Koteen (CCC)
Kanani Brown (CCC)

Response to Comment D-1

This comment is an introductory comment that states that Coastal Commission staff received the Draft EIR at the San Diego District Office. The commenter indicates that the Commission's ecologist reviewed the Draft EIR and provided specific comments for the proposed project.

The District appreciates the Coastal Commission's interest in the proposed project. This comment does not raise any specific issues requiring a response pursuant to CEQA. The specific comments raised in the pages that follow this introduction are listed separately along with the District's individual responses.

Response to Comment D-2

The comment states that the primary concern to Commission staff are potential biological resources impacts from excessive noise, light, chemical pollutants and firework debris on wildlife.

The commenter identifies general issues that are analyzed in detail throughout Section 4.3, *Biological Resources*, of the Draft EIR. As the comment does not raise a specific issue, a specific response cannot be provided. No changes to the Final EIR are required.

Response to Comment D-3

The comment indicates that Commission staff views fireworks displays as potentially impactful activities that should be minimized in occurrence, located in areas that are least impactful to wildlife and habitat, and scheduled outside of nesting periods, with the exception of the Fourth of July. In addition, the commenter notes that additional comments are to follow.

The environmental impacts of the project are fully disclosed and any significant adverse impacts on biological resources would be mitigated to less than significant in Section 4.3, *Biological Resources*, of the Draft EIR. As described in Chapter 3, *Project Description*, of the Draft EIR, the proposed new fireworks display events would be limited to four times per year, with two displays occurring on the Fourth of July. As shown in Table 3-1 of Chapter 3 of the Draft EIR, the remaining two fireworks display events would occur at different periods throughout the year, with one display occurring during the timeframe of January to March, and one display occurring during October to December. Both of these timeframes are generally outside of the avian nesting season. In addition, see response to comment B-6, which states that the proposed barge locations have been sited to minimize the effects of fireworks on biological resources to the maximum extent feasible.

Response to Comment D-4

The comment states that the Draft EIR should provide greater analysis from studies documenting impacts of fireworks on birds and marine mammals in particular. The comment does not specifically state which studies should be included within the Draft EIR.

The Draft EIR included an in-depth discussion of numerous existing studies that analyzed the effects of fireworks on wildlife, including birds and marine mammals. As discussed in Section 4.3, *Biological Resources*, of the Draft EIR, an extensive literature review was completed with a focus on effects of fireworks in coastal areas outside of the San Diego region, and the effects of pyrotechnics and loud sounds, in general, on marine resources. In addition, the impact analysis made use of existing biological information for San Diego Bay, including the San Diego Bay Integrated Natural Resources Management Plan prepared by the U.S. Navy in conjunction with the District. Furthermore, general

information was drawn from surveys of the nearshore environment near Imperial Beach Pier, particularly from the 2011–2012 benthic habitat mapping for the U.S. Navy’s Silver Strand Training Complex Boat Lanes (Merkel & Associates, Inc. 2011a, 2012), surveys performed offshore of the Imperial Beach Pier for nearshore beach nourishment (Merkel & Associates, Inc. 2011b), nearshore habitat mapping performed by San Diego Association of Governments (SANDAG 2002; Merkel & Associates, Inc. et al. 2004), studies completed for the Naval Base Coronado Naval Outlying Field in Imperial Beach (Tierra Data 2011; Merkel & Associates, Inc. 2014a), and beach monitoring performed in association with the regional beach nourishment program (Merkel & Associates, Inc. 2014b). The results of these studies and surveys were incorporated into the impact analysis and were used to determine potential impacts related to the proposed project. The environmental impacts of the project are fully disclosed and any significant adverse impacts on biological resources would be mitigated to less than significant in the Draft EIR. No changes to the Final EIR are required.

Response to Comment D-5

The comment identifies the alternatives fully analyzed in the Draft EIR and indicates that an alternative based on different locations should also be considered. The commenter also states that the 140 dB threshold is too high, and a lower threshold should be considered.

As discussed in Chapter 7, *Alternatives to the Proposed Project*, of the Draft EIR, one of the alternatives considered but rejected included a Landside Fireworks Display Events on Port Tidelands Alternative. Under this alternative, all proposed new fireworks display events would be required to be held within landside areas under the jurisdiction of the District. The locations of the proposed new fireworks display events as proposed and described in Chapter 3, *Project Description*, of the Draft EIR would be within San Diego Bay. Therefore, with the Landside Fireworks Display Events on Port Tidelands Alternative, the Draft EIR essentially considered an alternative location from what was proposed in Chapter 3. However, as discussed in Chapter 7, the Landside Fireworks Display Events on Port Tidelands Alternative was rejected for various reasons, including a potential for increased acute health risk and risk to public safety, reduced number of public viewing areas, increased potential for fire hazards, and increased traffic impacts because more intersections and roadways may need to be closed within the public safety zone.

Although this comment does not specify why the 140 dB threshold is too high or suggest a lower threshold, the District is providing the following information to address the comment. Distance from sensitive biological resource was one of the factors considered in selecting the launch locations for the proposed new fireworks display events. As discussed in response to comment B-6, the location of the proposed Chula Vista Bayfront launch barge has also been revised for the Final EIR to avoid the Refuge. The geographic location of each launch site is defined by the public viewing area(s) it is intended to serve as well minimum distances from land that are required to provide a safety buffer. As such, there is limited flexibility in where each launch site can be placed. Furthermore, because of the large noise impact distances identified the Draft EIR, it is generally not practical to move a launch site a large enough distance to substantially change the impacts. Therefore, project alternatives were selected that focused primarily on changing the characteristics of the fireworks display events themselves, rather than the launch locations for the displays. The decibel threshold of 140 dB is based on available data for salute fireworks, which are the loudest type of traditional fireworks used and are specifically designed to generate high noise levels. Because this type of firework is currently used as part of the existing traditional fireworks display events, this noise level is anticipated and not unrealistic. It should be noted that the 140 dB limit refers to linear (unweighted) peak noise levels that address very brief (instantaneous) peak noise, which is more

restrictive than typical A-weighted (i.e., dBA) maximum or average noise level limits that are typically used in assessing long-term environmental noise; the noise level limit is also specified directly under the shell burst, rather than at a more distant observation point. As requested in the comment, the Final EIR considers a decibel threshold lower than 140 dB. The noise limit under the No Salute Fireworks Alternative has been reduced in the Final EIR to “130 dB linear (unweighted) peak sound pressure level due to the firework break(s), as measured at a horizontal distance of 15 meters from the launch point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.” However, reducing the noise limit to 130 dB would not allow for any other alternate barge locations because the barges would still need to be sited a minimum of 1 mile from sensitive nesting colonies. The changes are included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment D-6

The commenter suggests that fireworks consisting of materials with reduced toxicity and more complete aerial combustion should be considered.

As part of the proposed ordinance, the District is requiring the use of alternative fireworks technologies to the extent that they are commercially available. These alternative fireworks are produced with pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters.

Response to Comment D-7

The comment states that each proposed fireworks launch site location must be evaluated in relation to nearby sensitive biological resources. The comment also suggests that an area of impact be identified around each fireworks launch site for different impact topics including noise, light, debris, and pollutants. Furthermore, the comment states that sensitive biological resources present around each fireworks launch site should be mapped and impacts on those resources should be evaluated for each location. The comment states that areas where sensitive species are concentrated should be entirely avoided.

The proposed project includes four new fireworks display events in San Diego Bay adjacent to the National City and Chula Vista Bayfronts. Section 4.3, *Biological Resources*, of the Draft EIR provides an in depth discussion of the existing habitats and wildlife of the Bay and identifies the specific sensitive habitats and species in the vicinity of the proposed locations for the new fireworks display events. In addition, the general biological habitats, sensitive habitats, wetlands, and locations of sensitive species of the Bay and Imperial Beach Oceanfront are mapped on Figures 4.3-1 and 4.3-2 of Section 4.3 of the Draft EIR. Figure 4.3-2 specifically depicts the locations of habitat protection areas, marine mammal haul-out areas, sensitive habitats such as eelgrass and coastal salt marsh, and sensitive nesting areas for light-footed Ridgway’s rail, Belding’s Savannah sparrow, Western snowy plover, and California least tern, as well as a 1-mile buffer around these sensitive nesting areas. The locations of each of these sensitive habitats, wetlands, and sensitive species are mapped in relation to the barge locations for both existing and proposed new fireworks display events.

The potential effects of the four proposed new fireworks display events on these sensitive species and habitats were analyzed throughout Section 4.3 of the Draft EIR, including the potential effects associated with fireworks noise, light, debris, and pollutants. Specifically, the potential effects of fireworks noise, light, debris, and pollutants on sensitive species, including native and migratory

wildlife species, are analyzed under Thresholds 1 and 4 of Section 4.3 of the Draft EIR. Additionally, the potential effects of fireworks noise, light, debris, and pollutants on sensitive habitats, including wetlands and wildlife nursery sites, are analyzed under Thresholds 2, 3, and 4 of Section 4.3 of the Draft EIR. The proposed barge locations have been sited to minimize the effects of fireworks on sensitive species and resources. Both the proposed National City and Chula Vista barges would be located approximately 1 mile from sensitive nesting areas within and around San Diego Bay to minimize the visual and audible effects of fireworks to these areas. No changes to the Final EIR are required.

Response to Comment D-8

The comment states that crowd management should also be considered in the EIR. The comment states that large crowds can affect wildlife and result in behavioral changes and stress, which is in addition to the stress caused by fireworks themselves. The comment also states that the effects of boat crowds should be considered and that certain densities may need to be limited.

The potential significant impacts associated with human activities is evaluated in Section 4.3, *Biological Resources*, of the Draft EIR. The proposed new fireworks display events would be located within view of publicly accessible areas such as parks, promenades, publicly accessible piers, and plazas. As a result, the District cannot prohibit access to these areas. However, the proposed ordinance includes several conditions of approval intended to reduce the effects of trespass into sensitive habitat areas, including security, signage, and education measures for publicly advertised fireworks display events. The implementation of these conditions of approval are required by mitigation measure MM-BIO-2.

As discussed in Section 4.3 of the Draft EIR, HPD currently assigns units to major patrol areas and deploys additional units on tidelands including bicycle and vessel units during existing fireworks display events (Brick pers. comm.). The landside patrols provide law enforcement within the landside viewing areas, while the special patrol vessels provide law enforcement on the water. Consistent with its current operational practices, HPD would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events. These existing procedures ensure that boating laws are properly enforced in the Bay. The District will continue to coordinate with HPD and U.S. Coast Guard who are responsible for proper boating practices in the Bay.

In addition, please see response to comment B-21. Based on recommendations received during the public comment period, Section 4.3 of the Draft EIR has been updated to a clarifying mitigation measure (MM-BIO-4) requiring biological monitoring and reporting, and updates to MM-BIO-2 to include clarifying language to augment landside security patrols with in-water security patrols. Changes to mitigation are included in Chapter 3, *Errata and Revisions*, of the Final EIR and are reflected in the project's MMRP.

Response to Comment D-9

The comment suggests that fireworks displays should not occur on consecutive nights in the same location unless the cumulative effects of these events is considered.

The proposed project includes four proposed new fireworks display events, two of which would occur on the Fourth of July. The timing of the two proposed new non-Fourth of July displays is detailed in Table 3-1, which specifies that one display would occur from the months of January to

March, and one display would occur from October to December. Therefore, there would be no potential for the proposed new fireworks display events to occur on consecutive nights. In addition, Chapter 5, *Cumulative Impacts*, of the Draft EIR evaluated the potential impacts associated with the combined effects of the proposed new fireworks display events and the existing fireworks display events that currently occur in San Diego Bay. As discussed in Chapter 5, the implementation of MM-BIO-1 would ensure that fireworks-generated trash and debris are collected and disposed of, and MM-BIO-2 would ensure that indirect effects from increased boat traffic, trespass, and human-generated trash and debris are reduced. The implementation of these mitigation measures would reduce potential cumulative biological resources impacts to a level less than cumulatively considerable. Therefore, no changes to the Final EIR are required.

Response to Comment D-10

The comment generally states that the Draft EIR is lacking a thorough discussion of mitigation of unavoidable impacts, and suggests that mitigation be developed based on specific location, species, and habitat impacts.

As discussed in Section 4.3, *Biological Resources*, of the Draft EIR, all potentially significant impacts on biological resources would be reduced to a less than significant level with the implementation of mitigation measures. Therefore, the proposed project would not result in any significant and unavoidable impacts on biological resources. This comment does not suggest any specific location, habitat, or species and also does not identify any unavoidable impacts for which mitigation is lacking. Therefore, a specific response cannot be provided. No changes to the Final EIR are required.

Response to Comment D-11

The comment states that special attention be paid to sensitive species such as the California least tern, Western snowy plover, Belding's Savannah sparrow, Ridgeway's rail, sea turtles, and any others not previously listed.

Section 4.3, *Biological Resources*, of the Draft EIR identifies the individual protected, rare, sensitive, threatened, and endangered species as designated by USFWS, National Marine Fisheries Service, and CDFW that are expected to be present in San Diego Bay and the Imperial Beach Oceanfront. As discussed in Section 4.3 of the Draft EIR, four avian species listed by USFWS and/or CDFW as federally or state-listed as endangered or threatened have a high potential to occur within San Diego Bay and the Imperial Beach Oceanfront. These include California least tern, western snowy plover, light-footed Ridgeway's rail, and Belding's Savannah sparrow. Other sensitive avian species with a high potential to occur include California brown pelican and double-crested cormorant, as well as sensitive raptors such as osprey, northern harrier, and American peregrine falcon. In addition, Section 4.3 specifies that south San Diego Bay supports a population of eastern Pacific green sea turtles. The potential effects of the proposed project on these various species are analyzed under Thresholds 1 and 4 of Section 4.3 of the Draft EIR, which determined that all potentially significant impacts would be reduced to less than significant with the implementation of mitigation measures. No changes to the Final EIR are required.

Response to Comment D-12

This comment concludes the comment letter and provides a contact name and information.

The District appreciates the Coastal Commission's interest in the proposed project. This comment does not raise any issues requiring a response pursuant to CEQA.

4.4.5 Comment Letter E: California Department of Fish and Wildlife



State of California – Natural Resources Agency
 DEPARTMENT OF FISH AND WILDLIFE
 South Coast Region
 3883 Ruffin Road
 San Diego, CA 92123
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EDMUND G. BROWN JR., Governor
 CHARLTON H. BONHAM, Director



May 2, 2017

Ms. Wileen Manaos
 Principal, Real Estate Development Department
 San Diego Unified Port District
 3165 Pacific Highway
 San Diego, CA 92101
wmanaois@portofsandiego.org

Subject: Comments on the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project, City of San Diego, San Diego County, California (UPD No. EIR-2015-115; SCH No. 2015081013)

Dear Ms. Manaos:

The Department of Fish and Wildlife (Department) has reviewed the San Diego Unified Port District's (Port District's) San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (proposed project) Draft Environmental Impact Report (DEIR). The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the proposed project (California Environmental Quality Act, [CEQA] Guidelines § 15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (CESA; Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.*

The proposed project consists of (1) an ordinance establishing a Port District Code section (proposed ordinance) to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the Port District or that are operated by the Port District's tenants, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the Port District. Existing fireworks display events are launched from barges, piers, and/or flight decks. The proposed new fireworks displays would occur year round and are anticipated to last between 3 to 10 minutes in duration for non-Fourth of July displays and 15 to 20 minutes for Fourth of July displays. The new fireworks displays are proposed to be launched from barges within the San Diego Bay, and would be governed by the proposed ordinance. All existing and proposed new fireworks display events that either require a discretionary action by the District or those operated by the District's tenants would be subject to all applicable federal, state, and local laws and regulations governing fireworks as well as any additional requirements set forth in the proposed ordinance.

E-1

E-1
cont. | The Department offers the following comments and recommendations to assist the Port District in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources.

General Compatibility

E-2 | Given the concentration of biological resources within the project area, the San Diego Bay National Wildlife Refuge, the Sweetwater Marsh Refuge Unit, the South San Diego Bay Refuge Unit, and other conservation efforts including federal funding associated with National City and the south bay, the Department is concerned with the compatibility and appropriateness of adding fireworks displays to the south bay that have the potential to adversely impact the region's rich natural resources. The DEIR's analysis should carefully examine the need of the proposed expansion, and consider the mitigation and monitoring requirements necessary to protect south bay habitats and their residents.

San Diego Fireworks Display EIR Notes

E-3 | The DEIR should include an analysis of direct and indirect impacts to all avifauna nesting within National City and the south bay, including D-Street Fill, Sweetwater Marsh, F and G Street Marshes, J Street Marsh, Paradise Marsh, Chula Vista Wildlife Reserve, and Silver Strand State Beach. The analysis should focus on the area's importance as a regional and international site utilized for nesting, roosting, foraging, and as a migratory stopover within the Pacific Flyway for common and designated sensitive species. The proposed project areas, particularly those proposed within the vicinity of Ecological Refuges and other open spaces within the south bay, host thousands of resident and migratory birds that could be adversely impacted by the proposed project.

E-4 | The Department believes that based on the available literature including unpublished reports, and other limited publications, common and sensitive species including, but not limited to light-footed Ridgway's rail (*Rallus longirostris levipes*; a CESA and Endangered Species Act [ESA] endangered species, and a State Fully Protected Species [FPS] under Fish and Game Code § 3511); California least tern (*Sternula antillarum browni*; a CESA and ESA endangered species and FPS); Belding's savannah sparrow (*Passerculus sandwichensis beldingi*; a CESA endangered species); western snowy plover (*Charadrius alexandrinus nivosus*; ESA threatened species and a State Species of Special Concern [SSC]); black skimmer (*Rynchops niger*; a SSC); elegant tern (*Thalasseus elegans*); Caspian tern (*Hydroprogne caspia*); double-crested cormorant (*Phalacrocorax auritus*); northern harrier (*Circus cyaneus*; a SSC); and osprey (*Pandion haliaetus*) are likely to exhibit a physiologic response to fireworks-generated flash and noise. Page 4.3-28 of the DEIR identifies that "[t]he flash and noise from the proposed new fireworks display events are [emphasis added] expected to generate physiologic response of stress within birds." However, later in the DEIR it is concluded that "the proposed new fireworks display events are not anticipated to result in any long-term or permanent substantial adverse effects on avian species because temporary disturbance from noise and light would be short term and infrequent and would not result in direct mortality of birds, a decrease in productivity, or long-term changes in behavior (e.g., colony abandonment)" (Port District, 2017; p. 4.3-31), concluding that no significant impact would occur. The Department does not believe that the analysis provided in the DEIR adequately supports the conclusion that fireworks displays would not directly impact sensitive avian species throughout San Diego Bay and Imperial Beach. For example, while certain colonies (that are routinely exposed to loud noise) may not be abandoning nests or chicks, vocalizations, flushing behaviors, and other movements indicated that these birds were stressed by the fireworks displays and loud noises they produce (Port

E-4
cont.

District, 2017). It is unknown how the stress responses elicited from cumulative fireworks displays affect species' energy expenditure, their underlying health, or if the stress affects subsequent nesting attempts. The DEIR suggests that because they have not historically been exposed to continuous loud noise, south bay avian colonies could be comparatively more sensitive to fireworks displays. Additionally, while behavioral observations of California least terns and western snowy plovers in response to fireworks displays are scant, studies for light-footed Ridgway's rail and Belding's savannah sparrow do not exist. For these reasons, the Department continues to stress the importance that the project include a comprehensive mitigation strategy, including a robust monitoring protocol, that minimizes sensitive species' exposure by maximizing spatial buffers from the fireworks display source (e.g., barge, pier, etc.) and sensitive receptors (i.e., nesting and critical roosting and foraging grounds for avian species).

Monitoring

E-5

In our comments on the Notice of Preparation for the proposed project (September 8, 2015) we recommended that for sites likely affected by fireworks displays, a monitoring protocol be developed as part of a comprehensive mitigation strategy. The DEIR does not include a monitoring protocol as recommended. Given the data gaps regarding the effects of fireworks displays on sensitive avian species, the DEIR should include an adaptive management plan requiring ongoing monitoring of sensitive receptor sites for individual fireworks displays (e.g., known sensitive species nesting and/or roosting sites). The adaptive management plan should include specific mitigation strategies to further minimize impacts to sensitive receptors (e.g., increase buffer size, temporal restrictions, etc.) and measures to gradually reduce the ongoing monitoring (as a component of the adaptive management plan) should the monitoring demonstrate that the mitigation measures are successful. The Port District should confer with the Department to reduce the interval or intensity of ongoing monitoring requirements. The Department offers the monitoring recommendations below (adapted from U.S. Fish and Wildlife Service [Service] recommendations):

E-6

1. Sensitive habitats (e.g., nesting and roosting sites within 1.2 mile of the fireworks) including areas within the vicinity of where spectators may congregate should be surveyed by a qualified biologist prior to, during, and following the fireworks display. Where appropriate, and when less intrusive than direct observation, nest cameras may be used to monitor sites that have no terrestrial or aquatic access. Monitoring activities themselves should not result in undue harassment. At a minimum, monitors should record and/or perform the following:
 - a. site location, name of monitor, date and time of observations;
 - b. number of adults, nests, and chicks observed within ½ mile of spectator viewing areas;
 - c. species behavior prior to, during, and post fireworks displays;
 - d. sources of stressors (e.g., light, noise, trespass, debris);
 - e. foraging behavior no sooner than 48 hours prior to and no later than 24 hours following fireworks displays;
 - f. counts of human and dog tracks intersecting with symbolically fenced areas before and after the fireworks event;
 - g. counts of persons within access-controlled areas;
 - h. counts of litter items within symbolically fenced areas before and after the fireworks event;

- E-6 cont.
- i. counts of illegal pyrotechnics;
 - j. recommendations, as applicable, to further minimize physiologic response to fireworks displays (e.g., identify known, new, or persisting management needs). Monitoring observations should be evaluated by the Port District to increase buffer distances, further limit noise levels or other actions as appropriate.

- E-7
- The Port District should:
2. Provide monitoring data directly to the Department.
 3. Ensure sensitive habitats are symbolically fenced and posted off-limits during events. Conduct repairs to symbolic fencing of any damaged or missing sections of fencing prior to fireworks display permit issuance.
 4. Close parking lots and beach access points in the vicinity of sensitive resources, as appropriate.
 5. Provide adequate numbers of monitors and patrols (commensurate with anticipated number or spectators, and exposure/accessibility of sensitive resources) prior to spectators congregating and continuing until spectators disperse.
 6. Monitor noise at sensitive receptor sites.
 7. Ensure monitors and other enforcement personnel receive accurate information regarding the location of sensitive resources.
 8. Prohibit pets on beaches and within sensitive resource areas.

Compliance

E-8

Monitors should have direct communication with patrols (e.g., San Diego Harbor Police, law enforcement, and private security) to effectively prevent inadvertent and unauthorized impacts to sensitive biological receptors. The DEIR identifies that fireworks displays not only elicit a physiological reaction from sensitive avian species, but that there are additional indirect effects associated with trespass from spectators accessing beach and dune areas closed for breeding and roosting. The Department commends the Port District for increasing the Harbor Police Department presence during fireworks displays, and the DEIR should memorialize the following DEIR language as a mitigation measure of future fireworks display permits. "*Consistent with its current operational practices, the Harbor Police Department would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events*" (Port District, 2017; p. 4.3-33). Additionally, the Port District should coordinate with staff from the Harbor Police Department to determine the number of patrols necessary to protect biological resources and to identify specific/targeted enforcement areas of sensitive resources where unauthorized spectating (e.g., beach access or beaching/mooring) is prohibited.

Environmentally Superior Alternative

E-9

The DEIR is not clear how the Quiet Fireworks Display Alternative (e.g., Environmentally Superior Alternative) fails to meet the project objectives. Per the DEIR, "... the Quiet Fireworks Display Events Alternative would not meet the fundamental project objectives" (Port District, 2017; p. ES-10). Of the alternatives analyzed by the DEIR, the Quiet Fireworks Display Alternative best aligns with protecting sensitive natural resources within the immediate proximity of firework displays (e.g., known nesting sites for California least tern, light-footed Ridgway's rail, Belding's savannah sparrow, western snowy plovers, etc.). The DEIR describes four (4) project objectives.

E-10 **Objective one.** Objective one is to develop a Port District ordinance that establishes a Port District Code section with policies and performance standards, for fireworks display events that require a discretionary action by the Port District or those firework display events operated by the Port District's tenants. The Quiet Fireworks Display Alternative would not impede the District's ability to establish policies; conversely, it would assist the Port District by providing specific performance standards that are both measurable and enforceable.

E-11 **Objective two.** The Quiet Fireworks Alternative fulfills project objective two by allowing "...for the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach..." (Port District, 2017; p. 3-2). Furthermore, the Port District is presented with an opportunity to educate local communities regarding San Diego's unique biological resources and recognize the protective measures that the District and the community collectively take. Communal resources can foster a sense of hometown appreciation—achieving objective two by "...providing a popular and region-wide way to celebrate and express civic pride..." while also facilitating fireworks displays.

E-12 **Objective three.** Project objective three seeks to allow "...the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach...." (Port District, 2017; p. 3-2). The Quiet Fireworks Alternative would not impede the occurrence of current or future fireworks displays and unequivocally "...considers the health, safety, and welfare of people, property, and the environment..." (Port District, 2017; p. 3-2).

E-13 **Objective four.** Finally, there is no evidence that the Quiet Fireworks Alternative fails to achieve project objective four, which aims "[t]o continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available" (Port District, 2017; p. 3-2). Nothing within the Quiet Fireworks Alternative suggests that access to fireworks displays would be limited beyond existing public safety, right of access, or other applicable restrictions.

E-14 Regardless of the selected project alternative, acousticians should be utilized to monitor the actual sound levels generated during these events in relationship to sensitive biological receptor sites. Point monitoring of sensitive biological receptors should be made a requirement for each firework display permit until it can be demonstrated that the existing or additional events do not adversely impact these receptor sites.

Alternative 3 – No Salute Fireworks Alternative

E-15 The Department appreciates the consideration of project alternatives intended to reduce the noise and light impacts to sensitive receptors, however, Alternative 3 allows fireworks that are equally loud as a typical 3-inch "salute". "The No Salute Fireworks Alternative would have the same characteristics as all of the fireworks display events that compose the proposed project, including the same total pounds of fireworks per event (as outlined in Table 3-2 in Chapter 3, *Project Description*), but would prohibit the use of salute fireworks and limit the noise produced by all fireworks during fireworks display events to a maximum of 140 dB" (Port District, 2017; p. ES-9). Under Alternative 3, fireworks noise would not be minimized below the typical salute fireworks the DEIR describes as being prohibited. As stated in the DEIR, salute fireworks are specifically designed to be loud and bright and "[w]hile the noise level of these fireworks varies by type, a typical linear (unweighted) peak noise level directly below a 3-inch salute exploding at

E-15
cont. | its normal altitude is 140 decibels (dB) (Journal of Pyrotechnics, Inc. 2012).” Therefore the effect of Alternative 3 only limits fireworks that exceed the typical noise generated by current fireworks and/or fireworks specifically labeled as salute fireworks.

Impacts to Nursery Sites

The proposed project has the potential to impact various nursery sites (i.e., avian nesting sites). Based on a literature review of relevant information, the U.S. Fish and Wildlife Service’s *Guidelines for Managing Fireworks in the Vicinity of Piping Plovers and Seabeach Amaranth on the U.S. Atlantic Coast* (USFWS, 1997) is a guidance document that evaluates impacts on tern species. Absent updated and site-specific information, the Service’s guidelines serve as the best available science for minimizing impacts to terns and plovers. With regard to selecting firework shell size, the Department’s literature review suggests a firework display’s impacts on avian species is associated the noise and light and not necessarily associated with the shell size of a given firework. Edits below suggest uncoupling firework shell size from the recommended avian buffer. To partially mitigate noise impacts to avian nesting and/or roosting sites the text of MM-NOI-1: *Implementation of Noise-related Conditions of the Proposed Ordinance* (p. ES-41) should be modified accordingly (deletions in ~~strikeout~~ and additions in **bold italics**):

MM-NOI-1: Implementation of Noise-Related Conditions of the Proposed Ordinance.

E-16 | The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1.2) mile from any federally or state-listed avian species nesting **sites**:

1. Location. Fireworks display events shall be located not less than one **and two-tenths (1.2)** mile from any federally, ~~or~~ state-listed **or other sensitive** avian species nesting colony.
2. Salutes. Fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display). **Concussion fireworks (e.g., Salutes or Reports) shall not to exceed 120 linear (unweighted) peak sound pressure level as measured directly under the shell burst occurring at its normal altitude, using a Type 1 sound measuring device with a free-field microphone at a height of 1 meter above the ground.**

Debris

E-17 | Despite Mitigation Measure MM-BIO-1, the proposed project could cause a considerable amount of plastic and other non-biodegradable materials to fall within San Diego Bay. Mitigation Measure MM-BIO-1 does not fully mitigate the potential for ingestion of firework byproducts that could harm green sea turtles, marine mammals, and/or avian species. Specifically, MM-BIO-1 (d)(2)(B) only prohibits fireworks with plastic casings or non-biodegradable inner components

E-17 cont. | exceeding five percent of the firework's mass (Port District, 2017; p. ES-16). The proposed addition of Chula Vista Bayfront firework displays alone could cause an additional 34.2 pounds of plastic and other non-biodegradable byproducts to fall directly within San Diego Bay¹. The DEIR should present the total amount of debris deposited within San Diego Bay that could be caused from existing fireworks shows, and newly proposed additions (e.g., National City and Chula Vista shows) within the DEIR. To the extent feasible, MM-BIO-1 should be revised to prohibit the use of non-biodegradable materials.

E-18 | Mitigation Measure MM-BIO-1(8), (9), and (10), and MM-WQ-1 should specify that collected firework-generated trash and debris should be weighed dry, not wet, to better achieve a proportional collection weight commensurate with the weight of introduced debris. Mitigation Measure MM-BIO-1(8), (9), and (10) should specify that weight criteria must be fulfilled using firework-generated debris only.

E-19 | To mitigate impacts associated with increased debris associated with boating activities and increased foot traffic (see Impact-BIO-3, Impact-BIO-4, Impact-BIO-8, and Impact-C-BIO-1) associated with spectators, Mitigation Measure MM-BIO-1 should require the fireworks organizer to collect incidental spectator-generated trash. To accomplish this, the Department recommends the following is incorporated in the DEIR as enforceable mitigation measures for future fireworks display permits:

E-20 | A) A refundable deposit fee, based on the number of anticipated spectators (e.g., per capita) paid by the fireworks organizer. The refundable deposit fee should be an inflation-adjusted amount to fund two Port District or respective City cleanup personnel, equipment (e.g., truck, boat, nets, bags, personal protection equipment, debris disposal fees, etc.) per 500 spectators. The refundable deposit should be released or prorated based on the Port District's and hosting-city's satisfaction with firework organizer's cleanup.

E-21 | B) To defray potential costs borne by the firework organizer and/or hosting-city, firework organizer and Port District shall implement Mitigation Measure MM-BIO-2(5) to include daily announcements through digital/social media in conjunction with physical signage and/or press releases. MM-BIO-2 should be revised to require educational programs for each event designed to minimize debris, and prohibit impacts to sensitive resources (e.g., nesting or roosting sites, green turtle foraging areas, and eel grass beds).

E-22 | C) While MM-BIO-2 requires a minimum of two "...professional security guards to direct persons away from and discourage trespass..." (Port District, 2017; p. ES-22) the number of required security guards should be based on the number of spectators, potential threat to sensitive areas (e.g., fenced vs. unfenced habitats) and mode of spectator access (e.g., land vs. aquatic, or both). Two security guards are inadequate for most locations and the DEIR does not specifically require boat patrols. MM-BIO-2 should be revised to provide security requirements based on site sensitivity and include provisions to increase Harbor Police patrols funded by the firework organizer and/or cooperating local agency.

¹ Based on the DEIR's Table ES-1 *Proposed New Fireworks Display Events Requiring a Future Discretionary Action by the District.*

Ms. Wileen Manaois
Real Estate Development Department, San Diego Unified Port District
May 2, 2017
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E-23 [We appreciate the opportunity to comment on the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events DEIR. Questions regarding this letter should be directed to Eric Weiss at (858) 467-4289, or eric.weiss@wildlife.ca.gov.

Sincerely,



Gail K. Sevens
Environmental Program Manager

ec: State Clearinghouse, Sacramento
Sandy Vissman, U.S. Fish and Wildlife Service

References

California Department of Fish and Wildlife (CDFW). 2016. California Least Tern Breeding Survey 2015 Season. March 30, 2016.

Port of San Diego. March, 2017. Draft Environmental Impact Report, San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project. Prepared by ICF.

U.S. Fish and Wildlife Service. 1997. Guidelines for Managing Fireworks in the Vicinity of Piping Plovers and Seabeach Amaranth on the U.S. Atlantic Coast.

Response to Comment E-1

This comment is an introductory comment that explains CDFW is providing recommendations to assist the District in avoiding, minimizing, and adequately mitigating project related impacts on biological resources. The comment states CDFW's authority as a Trustee Agency with jurisdiction over natural resources and a Responsible Agency under State CEQA Guidelines section 15381. The comment also summarizes the proposed project analyzed in the EIR.

The District appreciates CDFW's interest in the proposed project. This comment does not raise any issues needing a response pursuant to CEQA. The specific comments raised in the pages that follow this introduction are listed separately along with the District's individual responses.

Response to Comment E-2

This comment notes that CDFW is concerned with the compatibility and appropriateness of adding fireworks displays to the south Bay that have the potential to affect the natural resources. The comment indicates that the Draft EIR should analyze the proposed expansion and consider mitigation requirements to protect the south Bay habitats and their residents.

The commenter has raised two points. The first is a recommendation to consider the need of the proposed expansion of fireworks shows to include new shows in the South Bay, and the second is to consider mitigation and monitoring requirements necessary to protect South Bay habitats and resident resources. It is not necessary under CEQA to evaluate the need for a proposed action, only the environmental effects of the action itself. As such, the Draft EIR does not address project need. Relative to evaluation of mitigation and monitoring necessary, the Draft EIR has reviewed the potential nature, scale, and severity of anticipated impacts associated with the considered actions, including adoption of the proposed ordinance. This is documented in Section 4.3, *Biological Resources*, of the Draft EIR. From this analysis, multiple impacts were identified that would be considered significant without mitigation. The Draft EIR goes on to identify mitigation measures suited to reducing the extent of impacts to a less-than-significant level. In addition, an MMRP is required to be implemented to monitor and report on the success of the mitigation. The MMRP is attached to the Final EIR.

Response to Comment E-3

This comment states that CDFW requests that the Draft EIR include an analysis of direct and indirect impacts on all avifauna nesting within National City and the south Bay. The comment indicates that the analysis should focus on the area's importance as a regional and international site utilized for nesting, roosting, and foraging, and as a migratory stopover within the Pacific Flyway for common and designated sensitive species.

The commenter raises concerns over the resident and migratory avian resources of the project area. This was discussed in Draft EIR and Appendix F, BTR. It was also raised in comments B-7, B-8, B-10 and B-11 by USFWS (Please refer to these responses). Marshlands, nesting areas, and other resource areas within proximity to the proposed new fireworks display events have been identified in Figure 4.3-2, as updated based on USFWS comments. These resource areas have been identified as habitat protection areas along with resource management areas such as designated and other nesting sites. Section 4.3, *Biological Resources*, of the Draft EIR evaluates impacts on these resources and the Pacific Flyway.

Response to Comment E-4

This comment states that CDFW believes that certain common and sensitive species are likely to exhibit a physiologic response to fireworks-generated flash and noise. The comment states that CDFW does not believe that the Draft EIR analysis adequately supports the conclusion that the fireworks displays would not directly impact sensitive avian species throughout San Diego Bay and Imperial Beach.

This comment states that it is unknown how the stress responses from cumulative fireworks display affect species energy expenditure, health, or if the stress affects subsequent nesting attempts. The comment notes that the Draft EIR suggests that because south Bay avian colonies have not historically been exposed to loud noise, the colonies could be comparatively more sensitive to fireworks displays. The comment states that CDFW continues to stress the importance that the project include a comprehensive mitigation strategy, including a robust monitoring protocol, that minimizes sensitive species' exposure by maximizing spatial buffers from the fireworks display source and sensitive receptors.

The Draft EIR analyzes the potential impacts related to physiological stress in birds, and indicates that the stress levels generated may be expected to vary from north to south in the Bay based on habituation to differing ambient conditions. The Draft EIR has also concluded that the extent of impact is anticipated to fall below a level of significance as defined under CEQA. The Draft EIR analyzes each of the identified impacts against thresholds of significance within Draft EIR Section 4.3.4.3. As described in Draft EIR Section 4.3.4.2, *Thresholds of Significance*, biological resources impacts would be considered significant if the proposed project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, including sensitive avian species. Based on the information presented above, the proposed new fireworks display events may result in short-term and infrequent changes in behavior in sensitive avian species as a result of disturbance from fireworks. However, the proposed new fireworks display events are not anticipated to result in any long-term or permanent substantial adverse effects on avian species because temporary disturbance from noise and light would be short term and infrequent and would not result in direct mortality of birds, a decrease in productivity, or long-term changes in behavior (e.g., colony abandonment). As such, any temporary disturbance would not be considered a substantial adverse effect on a sensitive species. Therefore, as identified in Section 4.3, *Biological Resources*, of the Draft EIR, impacts would be less than significant.

The commenter raised concerns over how nesting birds may respond to cumulative fireworks displays. The biological resource expert retained by the District who assisted in preparation of the Draft EIR evaluated these concerns and determined as follows. The proposed project includes four proposed new fireworks display events, two of which would occur on the Fourth of July and the other two proposed new non-Fourth of July displays are identified as occurring between the months of January to March and between October to December. Therefore, there would not be a potential for accumulation of stress over time from repetitive shows.

The commenter further notes that while there are behavioral observations and studies for California least tern and western snowy plover with respect to response to fireworks, there are no such studies for Ridgeway's rail and Belding's savannah sparrow. This is true, but given that these species nest within vegetation screened nesting habitat and they are secretive at the nest site, they are less likely to exhibit detrimental stress responses than would be the case for birds that nest on open

ground and would thus be exposed to the full effects of light and noise associated with the fireworks events. The lack of information on secretive bird behavior is not taken as an indication of expanded concern for these species, but rather the species behavior would be expected to reduce potential concerns for detrimental effects rather than raise them.

Finally, in light of the concerns raised, CDFW recommended a comprehensive mitigation strategy that includes monitoring protocol. Section 4.3 of the Draft EIR provides a comprehensive mitigation strategy, which has been updated to include a clarifying mitigation measure requiring biological monitoring for the proposed new fireworks display events in south San Diego Bay (MM-BIO-4). It should be noted that all potentially significant impacts on biological resources were determined in the Draft EIR to be less than significant with the implementation of mitigation measures. The addition of the biological monitoring mitigation measure is suggested by USFWS and CDFW, which both have regulatory oversight of biological resources within San Diego Bay, and would not result in any changes to the determinations made in the Draft EIR. Changes to mitigation are included in Chapter 3, *Errata and Revisions*, of the Final EIR and are reflected in the project's MMRP.

Response to Comment E-5

The comment notes that CDFW recommended a monitoring protocol be developed as part of the comprehensive mitigation strategy. The comment indicates that CDFW recommends that an adaptive management plan requiring ongoing monitoring of sensitive receptor sites for individual fireworks displays that should include specific mitigation strategies to further minimize impacts on sensitive receptors and measures to gradually reduce the ongoing monitoring.

Please see response to comment E-4. Based on similar recommendations received during the public comment period, Section 4.3, *Biological Resources*, of the Draft EIR has been updated to include a clarifying mitigation measure requiring biological monitoring for the proposed new fireworks display events in south San Diego Bay (MM-BIO-4). The mitigation measures provided in the Draft EIR and the clarifying mitigation measure requiring biological monitoring provide an adaptive management plan as recommended in this comment. It should be noted that all potentially significant impacts on biological resources were determined in the Draft EIR to be less than significant with the implementation of mitigation measures. The addition of the biological monitoring mitigation measure is suggested by USFWS and CDFW, which both have regulatory oversight of biological resources within San Diego Bay, and would not result in any changes to the determinations made in the Draft EIR. Changes to mitigation are included in Chapter 3, *Errata and Revisions*, of the Final EIR and are reflected in the project's MMRP.

Response to Comment E-6

This comment indicates that sensitive habitats should be surveyed by a qualified biologist prior to, during, and following the fireworks display. Where appropriate, nest cameras may be used to monitor sites that have no terrestrial or aquatic access. CDFW provided a list of standards for the monitors.

Please see response to comment E-4, which added mitigation measure MM-BIO-4 to the EIR to address the suggested monitoring raised in this comment.

Response to Comment E-7

The comment notes that CDFW recommends that the District should (recommendation in italics and District's response follows):

2. Provide monitoring data to the CDFW

The District agrees with this recommendation and has incorporated this recommendation into Mitigation Measure MM-BIO-4. See Chapter 3, *Errata and Revisions*, of the Final EIR.

3. Ensure sensitive habitats are symbolically fenced and posted off limits during events

The comment does not define what is meant by a "symbolic fence." The District's biologist identifies that the installation of fencing would result in additional impacts on wildlife resources because it could serve as a predator perch and the installation and removal of fencing would result in increased noise and human disturbance within sensitive habitats. As identified in the EIR as part of Mitigation Measure MM-BIO-2, the fireworks organizer and operator are required to comply with the proposed ordinance, including Section X.07 Permits – Conditions of Approval, (e) Protection of Species and Habitat, which requires security, signage, and education for fireworks display events with public viewing areas within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas.

4. Close parking lots and beach access points in vicinity of sensitive resources

The closure of parking lots and beach access points within the coastal zone would result in adverse effects on public access, which is contrary to the California Coastal Act. Additionally it would result in the closure of desirable access areas for the fireworks displays event and has the potential to result in increased trespassing into existing non-accessible areas, which may result in greater impacts on sensitive habitat areas. Therefore, this recommendation has not been included in Mitigation Measure MM-BIO-4.

5. Provide adequate number of monitors and patrols

The implementation of Mitigation Measures MM-BIO-4, which includes monitoring and an adaptive management plan, will identify if additional security patrols is needed beyond the minimum of two professional security guards that are identified Mitigation Measure MM-BIO-2.

6. Monitor noise at sensitive receptor sites

The District agrees with this recommendation and has incorporated this into Mitigation Measure MM-BIO-4. See Chapter 3, *Errata and Revisions*, of the Final EIR.

7. Ensure monitors and other enforcement personnel receive accurate information regarding the location of sensitive resources

The District agrees with this recommendation and has incorporated this into Mitigation Measure MM-BIO-4. See Chapter 3, *Errata and Revisions*, of the Final EIR.

8. Prohibit pets on beaches and within sensitive resource areas

Existing laws, regulations, and applicable agreements adequately restrict unleashed pets on beaches, public parks, and sensitive habitat areas. Chula Vista Bayfront Master Plan Final EIR provides Domestic Animal Control Mitigation Measures (MM 4.8-6 and 4.8-7), which provide provisions to ensure that domestic pets within the Chula Vista Bayfront areas do not impact adjacent sensitive habitat areas. In addition Section 4.1.8 of the Chula Vista Bayfront Master Plan Settlement Agreement requires that all dogs be leashed in all areas of the proposed project at all times except in any designated and controlled off-leash areas. Furthermore, the National City Municipal Code Section 10.52.010 (d) requires owners to leash their dogs at all times within any City parks.

Response to Comment E-8

This comment indicates that monitors should have direct communication with patrols to effectively prevent inadvertent and unauthorized impacts on sensitive biological receptors. The comment states that the CDFW commends the Port District on coordinating with staff from HPD to determine the number of patrols necessary to protect biological resources and identify enforcement areas where unauthorized spectating is prohibited.

As discussed in Section 4.3, *Biological Resources*, of the Draft EIR, HPD currently assigns units to major patrol areas and deploys additional units on tidelands including bicycle and vessel units during existing fireworks display events (Brick pers. comm.). The landside patrols provide law enforcement within the landside viewing areas, while the special patrol vessels provide law enforcement on the water. Consistent with its current operational practices, HPD would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events. These existing procedures ensure that boating laws are properly enforced in the Bay. The District staff will continue to coordinate with HPD and U.S. Coast Guard, who are responsible for lawful boating practices in the Bay. In addition, MM-BIO-2 in Section 4.3 of the Draft EIR has been updated to include clarifying language to augment landside security patrols with in-water security patrols. This clarifying language is consistent with the analysis provided in the Draft EIR and current best practices.

In addition, implementation of Mitigation Measure MM-BIO-4, which includes avian nesting colonies monitoring, will identify if additional security patrols are needed beyond the minimum of two professional security guards that are identified Mitigation Measure MM-BIO-2. The monitors will have direct contact with HPD as needed to prevent inadvertent and unauthorized access.

This clarifying language is included in Chapter 3, *Errata and Revisions*, of the Final EIR and is reflected in the project's MMRP.

Response to Comment E-9

This comment states the author's opinion that it is unclear how the Quiet Fireworks Display Alternative fails to meet the project objectives and that it is the alternative that best aligns with protecting sensitive natural resources within the immediate proximity of fireworks displays. This comment is an introduction to the specific issues raised in comments E-12 through E-15, which are addressed in the responses to those comments below. No further response to this comment is necessary.

Response to Comment E-10

This comment summarizes Objective # 1 of the proposed project and states the Quiet Fireworks Display Alternative would not impede the achievement of this objective. The comment agrees with the conclusion reached in the Draft EIR, which states: “The Quiet Fireworks Display Alternative would meet Objectives # 1 and # 3 because it would include adoption of an ordinance that would establish policies and performance standards that would be applied to fireworks display events occurring in and around San Diego Bay and the Pacific Ocean near Imperial Beach” (Draft EIR, Section 7.5.2.12, p. 7-14). Therefore, no further response is required.

Response to Comment E-11

This comment states the Quiet Fireworks Display Alternative fulfills Objective # 2 by allowing the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach. The comment disagrees with the Draft EIR’s determination that the Quiet Fireworks Display Alternative would not meet the portion of Objective # 2 regarding the continuation of traditional fireworks displays. As discussed more fully in the Draft EIR, traditional fireworks displays are defined by the U.S. Department of Alcohol, Tobacco, Firearms and Explosives as large fireworks that are designed to produce visible or audible effects by combustion, deflagration or detonation and typically include fireworks such as salutes and aerial shells (Draft EIR, Section 3.2, p. 3-2, footnote 1). The Quiet Fireworks Display Alternative would not allow the continuance of traditional fireworks displays because the type of fireworks used in this alternative would not achieve the same heights and sounds as the fireworks used in traditional Fourth of July and other celebrations (Draft EIR, Section 7.5.2.12, p. 7-15). The Quiet Fireworks Display Events Alternative was intended to reduce the loud noises associated with traditional fireworks display events by eliminating the loud fireworks, including but not limited to salute fireworks, used in traditional fireworks displays, which are designed to provide entertainment value by making loud noises and intense flashes of light. Unlike traditional fireworks displays, the Quiet Fireworks Display Events Alternative would involve fireworks that are concentrated closer to the ground with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell (Draft EIR, Section 7.4.2.2, pp. 7-6-7-7; see also Draft EIR Section 3.3.3, pp. 3-7-3-8 [Description of Pyrotechnic Devices]). For these reasons, the Draft EIR concluded the Quiet Fireworks Display Alternative would not fulfill that portion of Objective # 2 to allow the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach.

This comment next states the District is presented with an opportunity to educate local communities regarding San Diego’s unique biological resources and recognize protective measures the District and the community can take. The District agrees with this comment. The unique biological resources in the project area are discussed in detail in Section 4.3, *Biological Resources*, of the Draft EIR, and the educational and protective measures the District, the fireworks organizers, fireworks operators and others in the community can take are set forth in the conditions of approval required by the proposed ordinance, which are specifically intended to protect biological resources in the project area (see Draft EIR, Appendix D, Proposed Fireworks Display Ordinance, Section X.07, subdivisions (a) – (k)). The conditions of approval in the proposed ordinance that address the potential impacts of the proposed new fireworks display events in National City and Chula Vista on biological resources are discussed and recommended in the Draft EIR as Mitigation Measure BIO-1, BIO-2 and BIO-3 (Draft EIR, Section 4.3, pp. 4.3-41-45, 51).

Lastly, this comment states the Quiet Fireworks Display Alternative can achieve the portion of Objective # 2, which refers to fireworks displays as “providing a popular and region-wide way to celebrate and express civic pride.” The comment agrees with the Draft EIR’s determination that the Quiet Fireworks Display Alternative would partially meet Objective # 2 because fireworks display events would provide a popular and region-wide way to celebrate and express civic pride (Draft EIR, Section 7.5.2.12, p. 7-15). Therefore, no further response is required.

Response to Comment E-12

This comment summarizes Objective # 3 of the proposed project and states the Quiet Fireworks Display Alternative would not impede the achievement of this objective. The Quiet Fireworks Display Alternative would allow the continued occurrence of fireworks display events in and around San Diego Bay and near Imperial Beach in a manner that considers the health, safety, and welfare of people, property, and the environment. However, this alternative would not allow traditional fireworks display events, which are designed to produce substantial visible or audible effects that involve loud noises and intense flashes of light (Draft EIR, Section 3.2, p. 3-2, footnote 1). The Quiet Fireworks Display Alternative would differ significantly from traditional fireworks display events because it would not achieve the same heights and sounds as the fireworks used in traditional Fourth of July and other celebrations. Unlike traditional fireworks displays, the Quiet Fireworks Display Events Alternative would involve fireworks that are concentrated closer to the ground with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell (Draft EIR, Section 7.4.2.2, pp. 7-6–7-7; see also Draft EIR, Section 3.3.3, pp. 3-7–3-8 [Description of Pyrotechnic Devices]). The Draft EIR will be revised to reflect that the Quiet Fireworks Display Alternative would partially fulfill Objective # 3 (Draft EIR, Section 7.5.2.12, pp. 7-14–7-15).

Response to Comment E-13

This comment states there is no evidence that the Quiet Fireworks Display Alternative fails to achieve Objective # 4 and that nothing within this alternative suggests that access to fireworks displays would be limited beyond existing public safety, right of access, or other applicable restrictions. Objective # 4 states the proposed project is intended “to continue and enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available” (Draft EIR, Section 7.3, p. 7-2). The comment disagrees with the Draft EIR, which determined the Quiet Fireworks Display Alternative would not meet Objective # 4 because it would be concentrated lower to the ground and, as such, it would limit the vantage points from which fireworks display events would be visible and would decrease the number of spectators that would be able to view the events (Draft EIR, Section 7.5.2.12, p. 7-15). This determination was based on additional information provided in the Draft EIR, which explained that the Quiet Fireworks Display Events Alternative was intended to reduce the loud noises associated with traditional fireworks display events by eliminating the use of loud fireworks, including but not limited to salute fireworks, which are designed to make a very loud bang and an intense flash of light, and instead focus on rich color effects and tight visual choreography in order to provide similar entertainment value. The Draft EIR further explained that the fireworks used in the Quiet Fireworks Display Events Alternative would “include fountains, wheels, cakes (such as cassettes, comets, spinners or turbillions, colored stars, fish or bees, and falling leaves), Chinese lanterns, and lanceworks (United Kingdom Fireworks Review 2016).” In addition, the Quiet

Fireworks Display Events Alternative would involve fireworks that are concentrated closer to the ground with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell (Draft EIR, Section 3.3.3, p. 3-8 [Low-Level Fireworks Devices, Set Piece/Ground-Level Fireworks]). Because the Quiet Fireworks Display Events Alternative would rely on fireworks that do not achieve the same heights or the same magnitude of traditional fireworks, they would not be as visible and the viewing area would be smaller than that which exists for the proposed project (Draft EIR, Section 7.4.2.2, pp. 7-6–7-7).

The Quiet Fireworks Display Events Alternative would require the proposed new fireworks display events along the Chula Vista and National City bayfronts to be quiet fireworks display events that would not exceed a noise limit of 120 dBA.¹ For this type of fireworks display event, the pyrotechnicians design a fireworks package that relies on the quieter types of fireworks. These fireworks display events would result in less noise impacts than the proposed project.

Response to Comment E-14

This comment notes that point monitoring of sensitive biological receptors should be made a requirement for each firework display permit until it can be demonstrated that the existing or additional events do not adversely impact these receptor sites.

As identified above in response to comment E-5, the EIR has been updated to include a clarifying mitigation measure requiring biological monitoring for the proposed new fireworks display events in south San Diego Bay (MM-BIO-4). The recommendation to conduct noise monitoring during monitoring of sensitive biological receptors has been included in Mitigation Measure MM-BIO-4. See Chapter 3, *Errata and Revisions*, of the Final EIR. As part of this plan, at least one of the biological observers/monitors will be trained to operate a sound level meter and conduct point monitoring of actual sound levels at sensitive biological receptors.

Response to Comment E-15

This comment states that CDFW appreciates the consideration of project alternatives intended to reduce the noise and light impacts on sensitive receptors, however, Alternative 3 allows fireworks that are equally loud as a typical 3-inch “salute.” This alternative would have the same characteristics as all of the fireworks display events that compose the proposed project, including the same total pounds of fireworks per event, but would prohibit the use of salute fireworks and limit the noise produced by all fireworks during fireworks display events to a maximum of 140 dB. The effect of Alternative 3 only limits fireworks that exceed the typical noise generated by current fireworks and/or fireworks specifically labeled as salute fireworks.

Because “salute” (also known as “maroon”) fireworks are specifically designed to have a loud report, this type of firework is explicitly prohibited under the No Salutes Alternative, regardless of specific noise level. Fireworks that are not categorized as salutes would typically be noticeably quieter than salutes. Nonetheless, the 140 dB limit was included to avoid any unusually loud non-salute fireworks. The analysis of the No Salute Alternative concludes that “...noise impacts would be reduced under this alternative. However, it is expected that significant and unavoidable impacts related to substantial temporary or periodic increases in ambient noise levels would still occur,

¹ 120 dB maximum A-weighted impulse sound pressure level as measured at a horizontal distance of 15 meters from the testing point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.

particularly during the Fourth of July fireworks display events. Overall, this alternative would result in reduced noise impacts compared to the proposed project” (Draft EIR, Section 7.5.3.8, p. 7-17). As noted in response to comment D-5, the noise limit under the No Salute Fireworks Alternative has been reduced in the Final EIR to “130 dB linear (unweighted) peak sound pressure level due to the firework break(s), as measured at a horizontal distance of 15 meters from the launch point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.” Reducing the 140 dB limit to 130 dB could further reduce noise impacts under this alternative, however it would not reduce noise impacts to less-than-significant levels and the conclusion of the analysis for the No Salute Alternative would not change. Therefore, no changes have been made to the EIR in response to this comment.

Response to Comment E-16

This comment notes that, with regard to shell size, CDFW’s literature review suggests a firework display’s impacts on avian species is associated with noise and light and not necessarily associated with the shell size of a given firework.

The District disagrees with this comment. It is noted in Section 3.3.3, *Description of Pyrotechnic Devices*, of the Draft EIR that increased fireworks shell size does correlate to greater impacts associated with noise and light. As noted in response to comment B-31, USFWS agreed that reducing shell size also reduces impacts on sensitive species.

Additionally, this comment notes that the proposed project has the potential to affect various nursery sites (i.e., avian nesting sites). The comment recommends that MM-NOI-1 be changed in four ways:

1. Increasing the exclusion distance from between fireworks and federally or state-listed avian species nesting sites, from 1 mile to 1.2 mile.
2. Revising “nesting colonies to “nesting sites.”
3. Broadening the nesting colony definition (from “state-listed avian species” to “state-listed or other sensitive avian species”).
4. Adding the following condition to the proposed ordinance: “Concussion fireworks (e.g., Salutes or Reports) shall not to exceed 120 linear (unweighted) peak sound pressure level as measured directly under the shell burst occurring at its normal altitude, using a Type 1 sound measuring device with a free-field microphone at a height of 1 meter above the ground.”

Draft EIR Section 4.3, *Biological Resources*, and Appendix F, BTR, provide a summary of substantial evidence of potentially significant wildlife impacts from fireworks displays, and includes extracts from a number of documents, including, among others, *Guidelines for Managing Fireworks in the Vicinity of Piping Plovers at Sea Beach Amaranth on the U.S. Atlantic Coast* (USFWS 1997).

Additionally, the Draft EIR and proposed ordinance include measures to avoid direct and indirect impacts on nursery sites, and special-status avian species in particular. Fireworks organizers and operators will implement mitigation measures to attenuate noise and reduce impacts on avian nesting sites, including MM-BIO-1, MM-BIO-2, and MM-NOI-1.

The comment references USFWS’s *Guidelines for Managing Fireworks in the Vicinity of Piping Plovers and Seabeach Amaranth on the U.S. Atlantic Coast* (USFWS 1997) and states that these guidelines serve as the best available science for minimizing impacts on least terns and plovers. The biological resource expert retained by the District reviewed this document and determined that the mitigation

measures recommended in the Draft EIR will reduce significant impacts on avian species to a level below significance. These mitigation measures were developed based on comments previously received by USFWS concerning the NOP for the Draft EIR, inclusive of a minimum 1-mile buffer from the nearest least tern and snowy plover nesting site. Although the changes to MM-NOI-1 proposed in the comment may further reduce potential impacts, no additional mitigation is required under CEQA once significant impacts are reduced below a level of significance. Since the additional mitigation proposed in this comment is not needed to reduce impacts below a level of significance, no changes will be made to MM-NOI-1.

In conclusion, no revisions to the Draft EIR have been made in response to this comment. However, as identified in above in response to comment E-5, the Draft EIR has been updated to include a clarifying mitigation measure requiring biological monitoring for the proposed new fireworks display events in south San Diego Bay (MM-BIO-4). The recommendation to conduct noise monitoring during monitoring of sensitive biological receptors has been included in Mitigation Measure MM-BIO-4. See Chapter 3, *Errata and Revisions*, of the Final EIR. Therefore, with the implementation of MM-BIO-4, if it is determined that MM-NOI-1 needs to be adapted based on the result of the monitoring, the District will revise the mitigation measure and condition of the proposed ordinance for fireworks display events that would occur along the National City and Chula Vista Bayfronts.

Response to Comment E-17

This comment states that despite MM-BIO-1, the proposed project could cause a considerable amount of plastic and other non-biodegradable materials to fall within San Diego Bay. MM-BIO-1 does not fully mitigate the potential for ingestion of firework byproducts that could harm green sea turtles, marine mammals, and/or avian species. The Draft EIR should present the total amount of debris deposited within San Diego Bay that could be caused from existing fireworks shows, and newly proposed additions, and MM-BIO-1 should be revised to prohibit the use of non-biodegradable materials.

The Draft EIR analyzes the potential impact on biological resources from fireworks trash and debris and concluded that such impacts would be significant. As a result, the Draft EIR recommends MM-BIO-1 to reduce the amount of non-biodegradable fireworks trash and debris that may fall into the Bay. MM-BIO-1 requires a series of packaging limitations and best management practices designed to prevent fireworks trash and debris from entering the Bay and to clean up and remove from the Bay an amount of trash equivalent to that which could result from the proposed fireworks displays. Although the comment asserts that MM-BIO-1 does not fully mitigate the potential for ingestion of fireworks by-products by affected species, based on the BTR (Appendix F) the Draft EIR concluded that MM-BIO-1 will reduce the potential impacts to a level below significance.

Response to Comment E-18

This comment states that MM-BIO-1 and MM-WQ-1 should specify that collected firework-generated trash and debris should be weighed dry, not wet, to better achieve a proportional collection weight commensurate with the weight of introduced debris, and that MM-BIO-1 should specify that weight criteria must be fulfilled using firework-generated debris only.

In response to the comment, Mitigation Measure MM-WQ-1 has been revised as follows:

10. Within ~~five~~¹⁰ (5-10) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the dry weight of the fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.

Changes to mitigation are included in Chapter 3, *Errata and Revisions*, of the Final EIR and are reflected in the project's MMRP.

In response to the last sentence of the comment "Mitigation Measure MM-BIO-1(8), (9), and (10) should specify that weight criteria must be fulfilled using firework-generated debris only," to clarify, condition (8) and (9) would occur the morning after the fireworks display event and would focus on picking up fireworks trash and debris. As identified in the EIR, MM-BIO-1 and MM-WQ-1 would ensure that fireworks-generated debris is properly cleaned up and disposed of, thereby reducing the amount of unrecovered fireworks debris that could create or contribute substantial additional sources of polluted runoff and substantially degrade water quality. However, as identified in the EIR, uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris related to fireworks on surface waters (Draft EIR, Section 4.6.4.3, pp. 4.6-36). Therefore, due to these uncontrollable factors, condition (10) was included to provide an additional debris clean-up efforts in the event the fireworks organizer is unable to recover the required amount of trash and debris to meet the requirements of the condition. Condition (10) is not limited to fireworks trash and debris because "Operation Clean Sweep" occurs weeks after many of the allowed fireworks display events have occurred and CEQA specifically allows mitigation that compensates for an impact by replacing or providing a substitute approach or that rectifies an impact by restoring the affected environment. No revisions to the Final EIR or MM-BIO-1 were made in response to this comment.

Response to Comment E-19

This comment indicates that MM-BIO-1 should require the fireworks organizer to collect incidental spectator-generated trash to mitigate for Impact BIO-3, Impact BIO-4, Impact BIO-8 and Impact C-BIO-1. To accomplish this, CDFW recommends additional mitigation measures for future fireworks display permits. The Draft EIR determined that Impact BIO-3, Impact BIO-4, Impact BIO-8 and Impact C-BIO-1 would be mitigated to a level below significance by the implementation of MM-BIO-1. Once a significant impact has been mitigated to a level below significance, CEQA does not require a lead agency to adopt additional mitigation measures. Therefore, although the additional mitigation proposed in the comment is not necessary or required, a response to each suggested recommendation is provided below in responses to comments E-20 through E-22 for informational purposes.

Response to Comment E-20

This comment states that a refundable deposit fee, based on the number of spectators should be paid by the fireworks organizer. The refundable deposit fee should be an inflation-adjusted amount

to fund two Port District or respective City cleanup personnel, equipment per 500 spectators, and the refundable deposit should be released or prorated based on the Port District's and hosting city's satisfaction with firework organizer's cleanup.

As part of the District's existing special event process, the District provides additional clean-up efforts for any special events including publicly advertised firework display events such as the Fourth of July fireworks display events that utilized Port tideland parks as public viewing areas. The comment does not provide supporting evidence for the need of the refundable deposit fee in order to further reduce impacts on biological resources. Therefore, this change has not been made in the EIR.

Response to Comment E-21

This comment indicates that the District should include daily announcements through digital/social media in conjunction with physical signage and/or press releases and recommends that MM-BIO-2 should be revised to require educational programs for each event designed to minimize debris, and prohibit impacts on sensitive resources. MM-BIO-2 is revised as follows:

5. **Education.** Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using daily announcements on social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to reminds viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).

Changes to mitigation are included in Chapter 3, *Errata and Revisions*, of the Final EIR and are reflected in the project's MMRP.

Response to Comment E-22

This comment states that the number of security guards are inadequate for most locations and the Draft EIR does not specifically require boat patrols. CDFW recommends that MM-BIO-2 should be revised to provide security requirements based on site sensitivity and include provisions to increase HPD patrols funded by the firework organizer and/or cooperating local agency.

Please see response to comment D-7 related to CDFW's recommendation for additional patrol. The implementation of Mitigation Measures MM-BIO-4, which includes monitoring and an adaptive management plan, will identify if additional security patrols are needed beyond the minimum of two professional security guards that are required by Mitigation Measure MM-BIO-2.

Response to Comment E-23

This comments states that CDFW appreciates the opportunity to comment on the Draft EIR.

The District appreciates CDFW's interest in the proposed project. This comment does not raise any environmental issues needing a response pursuant to CEQA.

4.4.6 Comment Letter F: Coastal Environmental Rights Foundation



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May 2, 2017

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Via Electronic Mail
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Re: **Draft Environmental Impact Report Fireworks Display Events Project**
CERF Comments Regarding Inadequacy of CEQA Review

Dear Ms. Manaois:

F-1 Please accept these comments on behalf of the Coastal Environmental Rights Foundation (CERF) in regard to the San Diego Unified Port District (“Port”) Draft Environmental Impact Report (“DEIR”) for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (“Project”). CERF is a nonprofit environmental organization founded by surfers in North San Diego County and active throughout California’s coastal communities. CERF was established to aggressively advocate, including through litigation, for the protection and enhancement of coastal natural resources and the quality of life for coastal residents.

For years, CERF has played a key role in addressing and challenging various unlawful firework events in the region. On numerous occasions CERF has notified the Port of its regulatory obligations with respect to fireworks event approvals, including CEQA review. While the Port’s commitment to conduct CEQA review now is a step in the right direction, the DEIR itself lacks the requisite analysis and mitigation measures. As detailed below, unless these issues are addressed, the DEIR will remain legally deficient.

A. The Project Will Result in Significant Water Quality Impacts

F-2 San Diego Bay is listed as impaired for numerous constituents, including many commonly associated with fireworks. The entire Bay is listed for PCBs, while segments of the Bay are listed as impaired for copper, zinc, mercury, benthic community effects, sediment toxicity, bacteria, PAHs, and chlordanes. (See DEIR, pp. 4.6-9-10). To assess the Project’s water quality impacts, including the potential to “further affect” impaired water bodies, the DEIR relies on Big Bay Boom monitoring data. The DEIR’s analysis is flawed in numerous respects.

F-3 First, the DEIR incorrectly notes for 2016, “two fireworks barges...collected samples immediately (within 1 to 2 minutes) following the end of the fireworks display event.” (DEIR, p. 4.6-22; see also, p. 4.6-23, Table 4.6-6). However, the 2016 Big Bay Boom Water Quality Monitoring Report reveals: “The 0-foot distance sample next to the barge was collected using an auto sampler tied to the side of the barge. **Sample collection at this location commenced approximately 5-minutes prior to the conclusion of the fireworks show.**” (2016 Big Bay Boom Water Quality Monitoring Report, p. 2, footnote 2, emphasis added). Because the final five minutes of the fireworks event represent the most concentrated discharge of pollutants (“the finale”) the samples taken prior to the finale do not accurately reflect water quality impacts.

F-4 Then, based on an analysis of limited SeaWorld and Big Bay Boom monitoring data, the DEIR concludes “the proposed new fireworks display events would not violate any water quality standards or waste discharge requirements, and potential impacts would be less than significant.” (DEIR, p. 4.6-29). The Big Bay Boom sampling data does not support such a conclusion. Rather, the sampling data indicates prevalent water quality exceedances for copper.

F-5 For example, in 2014, two out of three post-event total copper samples exceeded the California Toxics Rule (CTR) and were higher post-event. (2014 Big Bay Boom Water Quality Monitoring Report, Appendix A). That same year, all dissolved copper samples were higher post-event. (*Id.*). In 2015, the monitoring data revealed CTR exceedances for all pre- and post-event dissolved copper samples.¹ (2015 Big Bay Boom Post Event Report and Monitoring Data, p. A-1). Lastly, despite the fact that some of the samples were taken prior to the finale, the 2016 samples similarly showed copper exceedances. Nearly half of the 32 samples showed CTR exceedances for copper, and the Seaport Village zero foot post-event samples were nearly double those of the pre-event samples. (2016 Big Bay Boom Water Quality Monitoring Report, Appendix A). In summary, the Big Bay Boom data – though limited and imperfect – reveals fireworks do result in appreciable copper discharges to receiving waters. Because San Diego Bay is already impaired for copper, any additional amount of copper (no matter how slight) in fireworks discharge residue would contribute to an exceedance of an applicable water quality standard (i.e. the CTR). (See MS4 Permit, § II.2.a.; General Fireworks Permit, § IV.A. and B.).

F-6 In addition, the Regional Board concluded larger firework events result in levels of pollutants such as arsenic, copper, mercury, tin, zinc and phosphorous above water quality criteria and that the “discharge of pollutants associated with larger fireworks events has the reasonable potential to cause or contribute to an exceedance of the narrative sediment quality objectives stated in section VI.A.3.c of the [Final Permit].” (General Fireworks Permit, p. F-17). Larger fireworks events include Fourth of July events – not just the Big Bay Boom.

F-7 Thus, the DEIR’s conclusion that new fireworks events will not violate water quality standards or waste discharge requirements is contrary to existing evidence. Likewise, the finding that the proposed ordinance – which enables fireworks events such as the Big Bay Boom – would not result in water quality impacts is directly undermined by the aforementioned data.

F-8 The DEIR’s reliance on mitigation measure WQ-1 does not reduce such impacts to a less than significant level. (*Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, 1168 [finding no evidence that GHG reduction measures would function as enforceable and effective mitigation measures]; see *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1116 [“We agree with appellants that there is no substantial evidence that the mitigation measures are feasible or effective in remedying the potentially significant problem of decline in water levels of neighboring wells.”]).

F-9 Operation Clean Sweep, a once-per-year clean-up conducted in late August, neither addresses the temporal water quality impact caused by the majority of debris from year-round fireworks shows or bears any discernable relation to the type and scale of the impact caused by fireworks debris.

¹ The DEIR address only dissolved copper monitoring data. (See, DEIR, Figure 4.6-2). However, Big Bay Boom sampling included total copper as well. Applying the California Toxics Rule conversion factor for the saltwater total recoverable fraction (.83), the total/unfiltered copper data can be analyzed as well. (See 40 C.F.R. §131.38 (b)(2) notes).

F-9
cont.

Amec Foster Wheeler (2016) indicates that the weight of the debris recovered from the detonation barges combined with the dry weight of the debris collected from the surrounding waters should equal approximately one-half of the total display weight. **Therefore, if the total weight of recovered debris is less than this, it can be assumed that this unaccounted portion remains in the water and surrounding habitat.**

Based on the trash generation percentages described above, it can be assumed that approximately 228 pounds of debris would be generated by each of the proposed new Fourth of July fireworks display events and approximately 57 pounds of debris would be generated by each of the proposed new non-Fourth of July displays, some of which may remain in the water following the display and **potentially degrade sensitive habitats or wetlands within the south Bay.**

(Appendix F, pp. 29-30, emphasis added).

As reflected in the post-event monitoring reports for all major firework events under the General Fireworks Permit, no dischargers come close to retrieving 50 percent of the total weight of aerial fireworks shells and the required General Fireworks Permit BMPs are generally ineffective in mitigating impacts from fireworks debris.² (See Appendix F, Biological Technical Study p. 29; see also, Enclosure). As a result, significant amounts of debris will result in continuing impacts to water quality which have not been adequately addressed in the DEIR.

B. The Project Will Result in Significant Wildlife Impacts

F-10

As noted by the wildlife agencies, Chula Vista bayfront fireworks will likely result in significant wildlife impacts. "The Carlsbad Fish and Wildlife Office has previously recommended, and continues to recommend that the no fireworks displays occur within the Chula Vista Bayfront during the avian breeding season (generally January-September) due to the close proximity to the abundance of sensitive wildlife resources that occur within and around the Sweetwater National Wildlife Refuge, the South San Diego Bay National Wildlife Refuge (Wildlife Refuges), and the Chula Vista Wildlife Reserve." (US FWS NOP Comments, p. 3). The DEIR fails to adequately address the wildlife agency concerns, offering minimal restrictions within the proposed ordinance. Most notably, restriction of concussion salutes during the initial 25 percent of a display fails to ensure the *remainder* of the display will not result in significant impacts. (See DEIR, p. 4.8–27).

F-11

Likewise, the DEIR fails to substantiate how required eelgrass surveys and potential resultant mitigation will account for fireworks-related impacts. (Appendix D, p. 10; Appendix F, p. 31). Even direct, physical habitat destruction from tugboats and barges will not be evident through simple spatial surveys, much less impacts due to fireworks residue and debris deposition. Long-term impacts to eelgrass due to such deposition within sensitive habitat will therefore remain significant and unmitigated.

² See enclosed debris management summary. The Del Mar Fairgrounds, with a substantial portion of the fireworks deposition area over land, has historically retrieved far more debris than the Big Bay Boom. In the best year, only 35 percent of total weight was successfully retrieved.

C. The DEIR's Failure to Analyze VMT-Related Impacts Violates CEQA

F-12 | The DEIR fails to analyze both air quality impacts and greenhouse gas emissions associated with the Project's visitor traffic, ostensibly because "regional traffic patterns related to the fireworks display events cannot be accurately analyzed because of the limitations of traffic modeling and uniqueness of the events." (DEIR, pp. 4.2-24; 4.4-17-18). The is entirely improper.

F-13 | "Drafting an EIR or preparing a negative declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can." (14 Cal. Code Regs. §15144). As the lead agency performing the environmental analysis, the Port sits as the trier of fact and there is "no rule of law that allows an agency to escape that responsibility simply because the factual question is difficult." (*Poet, LLC v. State Air Resources Board* (Cal. Ct. App., Apr. 10, 2017, No. F073340) 2017 WL 1325296, at *17). Though perfection in evaluation of environmental effects is not required, the Port must analyze what is "reasonably feasible" and provide "adequacy, completeness, and a good faith effort at full disclosure." (14 Cal. Code Regs. §15151).

F-14 | Appendix J, the Traffic Assessment, concludes "Since it is difficult to assess what transportation related impacts are associated with the actual fireworks display event and what impacts are associated with the Fourth of July holiday, specific travel related impacts cannot be assessed through a conventional traffic impact analysis approach, which would include intersection and roadway level of service analyses." (Appendix J, p. 6). However, Big Bay Boom proponents have consistently boasted massive attendance and Port tidelands activation as a direct result of the fireworks displays.³ Reports of Big Bay Boom traffic impacts and traffic planning are ubiquitous.⁴ Big Bay Boom sponsors themselves acknowledge traffic impacts of the event and strongly suggest spectators take public transit because of traffic impacts, although pre-purchased, reserved parking is available for the event.⁵ The Port itself offers free shuttle service for spectators until 11 PM.⁶

F-15 | The Big Bay Boom is featured as an event that "activates" Port Tidelands and is specifically meant to "bring business to the Port Tenants."⁷ Indeed, the first few criteria for evaluating Port Tidelands Activation Program grant recipients include "[t]he number of people the event will attract to the Port Tidelands" and "[t]he ability of the event to...[a]ttract diverse visitors and demographics

3

<http://www.procopio.com/articles/view/procopio-attorneys-successfully-defend-san-diego-bay-fireworks-display> ["As one of the largest pyrotechnic displays in the nation, the "Big Bay Boom" draws 750,000 people each year..."]

⁴ <http://www.nbcsandiego.com/news/local/Big-Bay-Boom-Transportation-Parking-385242631.html> ["San Diego's biggest 4th of July fireworks show, the Big Bay Boom, goes down Monday, and is expected to draw up to a half-million patriotic spectators. With that large of a crowd, organizers of the Port of San Diego's 16th annual Big Bay Boom urge visitors to use public transportation to get to the big event, including the MTS trolley and buses."]

⁵ <https://www.bigbayboom.com/locations/transportation/> and <https://www.bigbayboom.com/locations/guaranteed-san-diego-bay-parking/>

⁶ <https://www.bigbayboom.com/locations/harbor-island/>

⁷ <https://www.bigbayboom.com/donate/about-the-fireworks-show/>
["The Port of San Diego's Big Bay July 4th Fireworks Show was established in 2001 to bring business to the Port Tenants and to benefit the San Diego Armed Services YMCA's family service programs for our military families including our wounded warriors at Balboa Naval Hospital."]

F-15 cont. | to District Tidelands.”⁸ Attendance for the Tidelands Activation Program is estimated at 500,000 people and the sponsor’s application form notes “The Big Bay Boom is a fireworks show of unquestionable quality and prominence, attracting huge numbers of people to the Port tidelands on land and water.” (AS YMCA Application and Evaluation Form FY 2017-2018).

F-16 | Lastly, the Transportation Assessment itself is replete with references to spikes in traffic just prior to and just after the fireworks event. (Appendix J, p.13; p. 15 [“There was an average increase of 480% in pedestrian activity, and an average increase of 224% of cyclist activity in the hours before and after the Big Bay Boom event.”]; p. 17 [“As shown, the highest traffic volumes for the majority of the roadway segments were observed between 8:00 PM and 9:00 PM, just prior to the start of the Big Bay Boom event.”], p. 18).

F-17 | Thus, the Port’s claim that it is “difficult” to assess traffic impacts of fireworks events is specious at best. “The fact that a single methodology does not currently exist that would provide the Port with a precise, or ‘universally accepted,’ quantification...does not excuse the preparation of any health risk assessment—it requires the Port to do the necessary work to educate itself about the different methodologies that are available.” (*Berkeley Keep Jets Over the Bay Committee v. Board of Port Com'rs* (2001) 91 Cal.App.4th 1344, 1370). Here, methodologies are available and traffic data has been collected. (See, Appendix J, pp. 11-45; p. 55 [“higher traffic volumes were typically observed before and after the sample event” and “traffic congestion was observed on the freeway facilities serving the Big Bay Boom viewing areas up to three hours after the conclusion of the event.”]). The DEIR also identifies the additional information purportedly necessary to adequately calculate VMT. This information is readily available, especially in light of the Port’s willingness to ascribe a number to the Big Bay Boom’s Tidelands’ activation, as well as the DEIR’s conclusion that a spike in traffic just before and after the Big Bay Boom fireworks event can be attributed to event spectators. The Port’s reluctance to assess GHG emissions or air quality impacts associated with spectator traffic in light of this data is a blatant violation of CEQA.


D. Conclusion

F-18 | Unless the Port updates its EIR with the aforementioned analysis and incorporates adequate mitigation measures, the DEIR will not withstand judicial scrutiny. We urge the Port to conduct the requisite analysis prior to release of the Final EIR and to include mitigation and avoidance measures which address the significant water quality impacts associated with the Project. Thank you for your consideration of these comments.

Sincerely,

COAST LAW GROUP LLP


Marco A. Gonzalez


Livia B. Beaudin
Attorneys for CERF

⁸<https://www.portofsandiego.org/recreation/tidelands-activation-program.html#types>

- Encl. Big Bay Boom Tidelands Activation Program Application
Selected Articles
Fireworks Post Event Monitoring Reports (via Dropbox)
Post Event Debris Management Statistics
Big Bay Boom Monitoring Data Summary 2014-2016

ENCLOSURE

Port of San Diego
Tidelands Activation Program
Application & Evaluation Form FY 2017-2018

SIGNATURE EVENT

ORGANIZATION	EVENT	DATE (S)
Armed Services YMCA of the USA - San Diego Branch	Port of San Diego Big Bay Boom July 4th Fireworks Show	7/4/2018

Event Contact: H. P. "Sandy" Purdon **Phone:** 619-822-1177

Location: North San Diego Bay with barges located off Shelter Island, Harbor Island, North Embarcadero, Seaport Village/South Embarcadero/Coronado Ferry Landing

Description: The Port of San Diego Big Bay Boom started in 2001 with two barges and now has grown to 4 barges located around North San Diego Bay. Spectators can view the show from Shelter Island, Harbor Island, North Embarcadero and the Seaport/South Embarcadero/Coronado Ferry Landing. The event consists of approximately 20 minutes of spectacular fireworks choreographed to music and simulcast on radio and television available to over 25 million people in Southern California.. There is no admission charge and viewing is also available from recreational boats and commercial charter boats on the bay.

Attendance: 500,000

Event Admission Fee: There are no admission charges.

Funding History:	Funding		Services	
FY	Requested	Granted	Requested	Granted
16-17	\$250,000	\$145,000	\$50,000	\$50,000
15-16	\$200,000	\$145,000	\$50,000	\$50,000
14-15	\$200,000	\$145,000	\$50,000	\$50,000

FY2017 / 2018 Financial Information:

Funding Requested	Fee Waivers/ Services Requested	Event/Program Budget Expenses	% of Budget Requested
\$200,000	\$140,185	\$550,000	49%

Surplus Projections

With requested sponsorship	With no sponsorship	With staff recommended sponsorship
\$0	(\$190,185)	\$95,000

Recipients of proceeds: The proceeds of the event stay with the Armed Services YMCA of the USA - San Diego Branch. They collect all the funds and pay the expenses. This amount is usually about 10% of the total gross budget.

Staff Recommendation & Comments

Funding:	\$145,000	Services:	\$140,185
-----------------	------------------	------------------	------------------

Comments: The Big Bay Boom is a fireworks show of unquestionable quality and prominence, attracting huge numbers of people to the Port tidelands on land and water. For the past three years, the Port has provided \$145,000 in funding and a full range of services at varying values. The show's producer, acting on behalf of the applicant, has indicated to Port staff that the costs of producing the show have risen substantially. These include a \$33,000 increase in barges and fireworks for 2018. It is also noted that the Port's costs for supporting the Big Bay Boom with services from the San Diego Harbor Police, General Service Department and their contractors totals \$140,185. This number does not include the Port's funding of an Environmental Impact Report (EIR) to entitle fireworks on San Diego Bay. Currently in process, the EIR is expected to cost over \$400,000. Staff recognizes the rising cost of the show; however the Port has funded the entirety of the EIR and staff therefore recommends that the Port's sponsorship funding remain stable at \$145,000 for the July 4, 2018 Big Bay Boom and that the Port provide all required Port services, at a value of \$140,185.



Big Bay Boom: Parking, Transit & Where to Watch

All of the transportation and parking info you need for this year's Big Bay Boom 4th of July fireworks celebration

By Beatriz Cabanas



More than 14,000 pounds of explosives light up the San Diego Embarcadero during the city's annual Big Bay Boom.

San Diego's biggest 4th of July fireworks show, the Big Bay Boom, goes down Monday, and is expected to draw up to a half-million patriotic spectators.

With that large of a crowd, organizers of the Port of San Diego's 16th annual Big Bay Boom urge visitors to use public transportation to get to the big event, including the MTS trolley and buses.

If you choose to drive, there will be free parking available at Qualcomm Stadium. From there, you can buy a trolley ticket and travel to several spots along downtown San Diego and the Embarcadero considered prime Big Bay Boom fireworks viewing locations.



Port of San Diego
@portofsandiego

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Make your 4th of July #BigBayBoom transportation plans now!
Click the link & strategize your ride: bit.ly/1LKEh8y

1:35 PM - 30 Jun 2016

3 2

The Big Bay Boom offers six locations around the San Diego Bay from which spectators can take in the 4th of July show:

TRENDING STORIES

- 1 VIDEO Gunman Wanted Ex to Hear Rampage: SDPD Chief

- 2 VIDEO Caffeine Found In San Diego County Streams

- Nick Cannon Mourns Friend Killed in San Diego Mass Shooting

- 3 VIDEO Party May Have Triggered Despondent Gunman: Expert

- 5 VIDEO Violence Hit Too Close to Home for Apt Residents

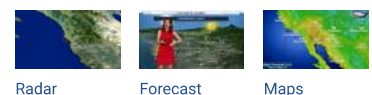
WEATHER FORECAST

San Diego, CA



68°

Few Clouds
Feels Like 68°





Harbor Island

- North Embarcadero
- Seaport Village
- South Embarcadero
- Coronado Ferry Landing

Free shuttle services will be offered to spectators heading to the Shelter Island and Harbor Island viewing spots.

The Shelter Island shuttle will pick up visitors from the corner of Carleton and Rosecrans streets in Point Loma. Street parking is available around that area, though it will be limited. The last return shuttle from Shelter Island (at the Gazebo point) runs at 11 p.m.

Meanwhile, the Harbor Island shuttle service will give visitors a ride from the corner of McCain Road and N. Harbor Drive, west of Airport Terminal 2. The drop off location for Harbor Island will be the San Diego Harbor Police Headquarters, and spectators can walk to their viewing point from there. Those hopping on the Harbor Island shuttle can park at the airport parking lot on McCain Road and N. Harbor Drive, where parking is \$12, cash, per car. The final free return shuttle from Harbor Island runs at 11 p.m., too.

The North Embarcadero, Seaport Village, South Embarcadero and the Coronado Ferry Landing viewing points offer limited parking on or around the areas.

North Embarcadero parking is available from Grape Street to Broadway including the B Street Pier. There are various lots and streets from Harbor Drive to Pacific Highway as well.

For Seaport Village and South Embarcadero, parking is available in the Seaport Village and Hilton parking lots. Specifically at Seaport Village, visitors who park before 3p.m. pay \$5 for the first three hours, \$3 every 30 minutes thereafter. Validation is available with a minimum \$10 purchase. Non Validated self-parking is \$8 per hour. After 3p.m., there is a flat rate of \$25 per car.

Seaport Village also has valet parking available. Before 3p.m., the fees are \$15 up to five hours, \$30 up to 10 hours and \$40 max over 10 hours. After 3p.m., restaurant reservations can valet for \$30 and all others can valet for \$50.

Finally, parking at the Coronado Ferry Landing is available in the shopping area as well as public street parking in the general vicinity.

The Big Bay Boom starts at 9 p.m. sharp, so plan accordingly. It's sure to be a blast.

For NBC 7's extensive guide on more than a dozen 4th of July fireworks shows across San Diego County, [click here](#).

Published at 1:41 PM PDT on Jul 1, 2016

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PORT OF SAN DIEGO Big Bay Boom



Countdown to July 4th, 2017

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HARBOR ISLAND

Harbor Island Parking

Parking is very limited on Harbor Island and full by early afternoon. Your best bet might be to take the free shuttle bus service from the Port of San Diego. Once all parking is taken there, the Harbor Police will close it. Please be patient as the attendance will be very large. We **strongly encourage** you to use our [transportation partners](#).

Free 4th of July Special Bus Shuttle Service to Harbor Island

Goldfield Stage will provide Free shuttle service to Harbor Island. Pick up will be at the corner of McCain Road and North Harbor Drive west of Airport Terminal 2. Passengers will be dropped off and picked up after the show at the San Diego Harbor Police Headquarters. The final shuttle run will be at 11 p.m. Park at the airport parking lot off McCain Road and North Harbor Drive west of Airport Terminal 2. ***Please note that shuttle service is free, however parking at this lot will be \$12.00 (cash) per car.* [Click to download Shuttle Pickup and Drop Off locations](#) (PDF file)

Hotels in Harbor Island

- Sheraton San Diego Hotel [Check Web site for rates](#)

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[Harbor Island](#)

[North Embarcadero](#)

[Coronado Ferry Landing](#)

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FIREWORKS START AT 9 PM!

8:00 pm – Watch Live on TV [Fox 5](#) (San Diego) or [KTLA 5](#) (Los Angeles)

9:00 pm – Listen to Fireworks synchronized to music on the Radio [THE MIGHTY 1090 AM](#) and [MAX FM 105.7](#)

- [Homewood Suites Liberty Station Hotel](#) [Check Web site for rates](#)

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Contribute to the Armed Services YMCA charity to support the Big Bay Boom and the services for our military families and Wounded Warriors.

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The Port of San Diego's Big Bay Boom July 4th Fireworks Show benefits the Armed Services YMCA's family service programs for our military families including our wounded warriors at Balboa Naval Hospital. San Diego has thousands of military personnel deployed and the families left behind often face specific challenges that the Armed Services YMCA helps them resolve.

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San Diego July 4th Fireworks on San Diego Bay
– Big Bay Boom

SFGATE<http://www.sfgate.com/bayarea/article/New-permits-may-be-required-after-Super-Bowl-show-6821787.php>

New permits may be required after Super Bowl show trashed beach

By **Kimberly Veklerov** Updated 4:25 pm, Wednesday, February 10, 2016



IMAGE 3 OF 3

Volunteers picked up trash after Friday's Super Bowl fireworks show.

State officials are mulling whether to require new permits for firework companies after pyrotechnic debris washed up on parts of San Francisco's shoreline after two Super Bowl shows.

Five volunteers from Shark Stewards, a nonprofit that advocates ocean health, collected 30 pounds of trash, including more than 1,000 pieces of plastic, Saturday — a day after the second Super Bowl fireworks show off the Embarcadero, according to David McGuire, the organization's director. The haul included cardboard casings, plastic caps, and what appeared to be unspent shells.

McGuire and other environmental advocates are worried the fireworks debris they collected is only half the story.

“It’s not like we just clean up the beach and it goes away,” he said. “How many pounds of that plastic is still out there?”

Macy’s, which put on the shows, hired Pyro Spectaculars to launch the fireworks from a barge at the start and end of Super Bowl week. After the first show on Jan. 30 — which National Park Service officials said deposited in Aquatic Park enough firework junk to fill four 50-gallon trash containers — Macy’s officials said they took additional steps to minimize pollution. The fireworks company changed its materials, secured them better on the barge and collected debris after the show, said Orlando Veras, a Macy’s spokesman.

But when Shark Stewards volunteers did their regular cleanup of the shoreline the next day, which usually focuses on cigarette butts, they found another load of pyrotechnic litter — though not as large as what park officials found the week before.

“This is unacceptable when we’re doing something for our entertainment and it’s adding to this plastic load,” McGuire said, referring to the millions of tons of plastic that enter the ocean every year.

In the wake of the cleanup efforts, a watchdog group that fights ocean pollution is now urging regional water agency officials to require Clean Water Act permits for companies to launch fireworks.

“We haven’t heard of this kind of debris coming onto the shore during our 26 years watch-dogging the Bay,” said Sejal Choksi-Chugh, director of the group, San Francisco Baykeeper.

And regional water control officials are listening.

Lila Tang, a division chief of the San Francisco Bay Regional Water Quality Control Board, said agency officials are looking into the possibility of mandating Clean Water Act permits for firework shows over bodies of water, and there’s a good chance they will enact the measure. Ideally, Tang said, the requirement would be statewide rather than

region by region. The board may also investigate what happened during the Super Bowl shows and fine those responsible.

The permit action wouldn't be without precedent. The San Diego water quality office began requiring the permits in 2011, according to Ben Neill, a water resource control engineer in San Diego.

The permits require companies launching fireworks to show proof ahead of time that the pyrotechnics will not pollute the water.

“The companies need to step up and clean up their mess,” Choksi-Chugh said. “It’s pretty unacceptable that nonprofits have to step in.”

Kimberly Veklerov is a San Francisco Chronicle staff writer. E-mail: kveklerov@sfgate.com Twitter: [@kveklerov](https://twitter.com/kveklerov)

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07.02.10

PROCOPIO ATTORNEYS SUCCESSFULLY DEFEND SAN DIEGO BAY FIREWORKS DISPLAY

San Diego, CA - The law firm of Procopio, Cory, Hargreaves & Savitch LLP successfully represented pro bono client San Diego Armed Services YMCA (“SDAS”) against threats from a local environmental group to shut down the annual San Diego Bay Independence Day Fireworks display. As one of the largest pyrotechnic displays in the nation, the “Big Bay Boom” draws 750,000 people each year and generates around \$40,000 in proceeds for the SDAS. In addition, the event provides substantial social and economic benefits to the community as a whole.

The Coastal Environmental Rights Foundation (“CERF”), has claimed that any fireworks displays over water require a permit and California Environmental Quality Act (“CEQA”) analysis. In October of last year, CERF’s legal threats led to the cancellation of a San Diego Bay fireworks display scheduled for New Years Eve. In late June, CERF filed complaints against the City of San Diego alleging that their La Jolla fireworks display would violate state environmental law. CERF threatened the same for the SDAS’ July 4th Big Bay Boom.

The Procopio team that represented SDAS included Partner **Robert G. Russell**, Senior Counsel **Walter E. Rusinek** and Associate **Kevin M. Davis** and was led by Procopio Partner **John J. Lormon**.

“John Lormon was the key person in our successful reviews by the Regional Water Quality Control Board and our “exemption” from the California Coastal Commission,” said Sandy Purdon, Executive Producer and Founder of the Big Bay Boom. “If it hadn’t been for John and Procopio, we could be facing a far different circumstance with the Big Bay Boom July 4th Fireworks Show. If I had to name a MVP for this effort to save the July 4th fireworks show for San Diego Bay it would be John Lormon.”

Even with the exemption in place, for business reasons the SDAS sought to resolve all possible legal exposures. Therefore, on June 24th, Lormon negotiated a settlement with CERF that provided the client with the certainty needed to keep in-kind volunteers in place and the show on schedule. Lormon also

obtained concurrence from the Port District that the Imperial Beach Pier portion of the show was excluded from Port coastal jurisdiction.

About Procopio, Cory, Hargreaves & Savitch LLP

With more than 110 attorneys in San Diego and Carlsbad, Procopio, Cory, Hargreaves & Savitch LLP is one of the largest full-services business law firms in Southern California. We are a local law firm with a global network that gives us the ability to serve our clients' interests throughout the world. Procopio is dedicated to understanding the businesses and industries of our clients and collaborating with them to develop tailored strategies. We advise companies at every stage in the corporate life cycle, helping them to plan, finance and operate their businesses. Since 1946, our success has been derived from our commitment to our clients and our ability to maximize the value we provide to them. Our goal is to continue building long-term relationships with our clients through a steady, team-oriented approach. For additional information, please visit www.procopio.com.

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Post-Event Fireworks Reports

Big Bay Boom			
Year	Net Explosive Weight (lb dry weight)	Debris Collected (lb dry weight)	%
2011	750	15	2.00%
2012	(not reported)	(not reported)	
2013	(not reported)	5	
2014	6130	386	6.30%
2015	5342	760	14.23%
22nd Ag			
Year	Net Explosive Weight (lb dry weight)	Debris Collected (lb dry weight)	%
2011	461.2	110	23.85%
2012	477.3	133.8	28.03%
2013	508	112	22.05%
2014	490	170	34.69%
2015	(not reported)	(not reported)	

Summary of 2014 BBB Fireworks Water Quality Monitoring Analytes

Type	Analyte	Analysis Method	Unit	RL	MDL	CTR	BBBFS-1- PRE	BBBFS-1- POST	BBBFS-2- PRE	BBBFS-2- POST	BBBFS-3- PRE	BBBFS-3- POST
Metals	Arsenic, Total	EPA 1640	µg/L	0.03	0.0122	36	1.52	1.48	1.52	1.5	1.54	1.49
	Arsenic, Dissolved	EPA 1640					1.4	1.5	1.36	1.49	1.48	1.55
	Barium, Total	EPA 1640		0.1	0.0503	N/A	10.9	6.33	6.05	6.14	6.22	6.53
	Barium, Dissolved	EPA 1640					7.12	6.34	6.08	6.19	6.13	6.35
	Cadmium, Total	EPA 1640		0.03	0.00567	9.3	0.0737	0.0838	0.0824	0.0828	0.0835	0.0864
	Cadmium, Dissolved	EPA 1640					0.0727	0.082	0.0798	0.0869	0.0868	0.0864
	Chromium, Total	EPA 1640		0.5	0.164	50	ND < 0.5	0.277 J	0.321 J	0.263 J	0.293 J	0.298 J
	Chromium, Dissolved	EPA 1640					0.695	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
	Cobalt, Total	EPA 1640		0.05	0.00486	N/A	0.0856 B	0.0792 B	0.0855 B	0.0777 B	0.0759 B	0.0961 B
	Cobalt, Dissolved	EPA 1640					0.0379 B,J	0.0337 B,J	0.0326 B,J	0.0346 B,J	0.0371 B,J	0.0452 B,J
	Copper, Total	EPA 1640		0.03	0.00898	3.1	2.72 B	3.74 B	3.51 B	3.45 B	3.23 B	3.87 B
	Copper, Dissolved	EPA 1640					1.95 B	2.67 B	2.45 B	2.52 B	2.48 B	2.67 B
	Lead, Total	EPA 1640		0.03	0.0135	8.1	0.292	0.342	0.373	0.319	0.327	0.397
	Lead, Dissolved	EPA 1640					0.044	0.0296 J	0.0231 J	0.0368	0.0247 J	0.0493
	Mercury, Total	EPA 7470A		0.05	0.0321	0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
	Mercury, Dissolved	EPA 7470A					ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
	Molybdenum, Total	EPA 1640		0.05	0.0243	N/A	16.3	13.3	12.9	13.1	13.3	13.3
	Molybdenum, Dissolved	EPA 1640					16.7	13.3	12.4	12.4	13.3	12.2
	Nickel, Total	EPA 1640		0.05	0.00607	8.2	0.533	0.65	0.717	0.596	0.637	0.671
	Nickel, Dissolved	EPA 1640					0.381	0.645	0.52	0.537	0.59	0.655
	Potassium	EPA 6020		1000	74.4	N/A	239000	253000	439000	242000	261000	236000
	Potassium, Dissolved	EPA 6020					268000	279000	275000	269000	262000	264000
	Selenium, Total	EPA 1640		0.05	0.0121	71	0.0559	0.0615	0.0323 J	0.0494 J	0.0332 J	0.0717
	Selenium, Dissolved	EPA 1640					0.0742	0.0276 J	0.0213 J	0.0278 J	0.027 J	0.0296 J
	Silver, Total	EPA 1640		0.05	0.00822	N/A	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
	Silver, Dissolved	EPA 1640					ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
	Thallium, Total	EPA 1640		0.03	0.0087	N/A	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03
	Thallium, Dissolved	EPA 1640					ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03
	Tin, Total	EPA 6020		10	1.72	N/A	2.37 J	ND < 10	ND < 10	ND < 10	3.02 J	ND < 10
	Tin, Dissolved	EPA 6020					3.32 J	3.4 J	2.11 J	2.36 J	ND < 10	ND < 10
	Titanium, Total	EPA 6020		10	1.32	N/A	5.98 J	7.71 J	4.27 J	4.56 J	8.88 J	1.96 J
	Titanium, Dissolved	EPA 6020					3.14 J	9.96 J	1.78 J	5.56 J	1.52 J	3.32 J
Vanadium, Total	EPA 1640	0.05	0.0332	N/A	2.12	2.63	2.69	2.69	2.68	2.71		
Vanadium, Dissolved	EPA 1640				4.37	2.41	2.4	2.45	2.48	2.41		
Zinc, Total	EPA 1640	1	0.147	81	9.55	8.76	8.89	7.5	8.18	10.1		
Zinc, Dissolved	EPA 1640				0.5	0.0736	5.15	6.6	7.02	6.71	8.33	8.14
Nutrients	Perchlorate, Total	EPA 331.0 (M)	µg/L	10	0.29	N/A	ND < 10	ND < 10	ND < 10	0.99 J	ND < 10	1.4 J
	Phosphorus, Total	EPA 365.1		50	20	N/A	25 J	28 J	26 J	33 J	29 J	33 J
SVOC	Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	4.8	1.5	N/A	ND < 4.8	ND < 4.8	ND < 4.8	ND < 4.8	ND < 4.8	ND < 4.8

J = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated; B = Analyte was present in the associated method blank

RL = reporting limit; MDL = minimum detection level; ND = not detected above indicated concentration

PRE = Pre-show stations; POST = Post-show stations

µg/L = micrograms per liter

CTR = California Toxics Rule, Continuous Concentration Criteria for salt water (2000)

Table A-1.
Summary of 2015 BBB Fireworks Water Quality Monitoring Analyte Concentrations

Type	Analyte	Analysis Method	Unit	RL	MDL	CTR	BBBFS-1- PRE	BBBFS-1- POST	BBBFS-2- PRE	BBBFS-2- POST	BBBFS-3- PRE	BBBFS-3- POST
Metals	Arsenic, Total	EPA 1640	µg/L	0.03	0.0122	--	1.41	1.45	1.37	1.4	1.43	1.41
	Arsenic, Dissolved	EPA 1640				36	1.3	1.29	1.33	1.32	1.3	1.34
	Barium, Total	EPA 1640		0.05	0.0252	--	6.53	6.25	6.64	6.64	6.63	6.56
	Barium, Dissolved	EPA 1640				--	6.64	6.41	6.54	6.32	6.57	6.38
	Cadmium, Total	EPA 1640		0.03	0.00567	--	0.052	0.0473	0.0483	0.0446	0.0513	0.0454
	Cadmium, Dissolved	EPA 1640				9.3	0.0382	0.0287J	0.0358	0.0312	0.0328	0.0279J
	Chromium, Total	EPA 1640		0.5	0.164	--	0.421J	0.448J	0.501	0.467J	0.464J	0.488J
	Chromium, Dissolved	EPA 1640				50	0.283J	0.282J	0.322J	0.284J	0.294J	0.324J
	Cobalt, Total	EPA 1640		0.05	0.00486	--	0.0727	0.0694	0.0704	0.0672	0.0708	0.067
	Cobalt, Dissolved	EPA 1640				--	0.0438	0.0451J	0.0375J	0.0445J	0.0503	0.0338J
	Copper, Total	EPA 1640		0.03	0.00898	--	3.47	3.37	3.46	3.52	3.41	3.33
	Copper, Dissolved	EPA 1640				3.1	3.85	3.70	3.34	3.19	3.14	3.22
	Lead, Total	EPA 1640		0.03	0.0135	--	0.267	0.241	0.362	0.28	0.227	0.266
	Lead, Dissolved	EPA 1640				8.1	0.0392	0.0493	0.064	0.0224J	0.0255J	0.0173
	Mercury, Total	EPA 7470A		0.05	0.0321	0.05	0.0807	0.0607	0.0459J	0.0525	0.0420J	0.0456J
	Mercury, Dissolved	EPA 7470A				--	ND	ND	ND	ND	ND	ND
	Molybdenum, Total	EPA 1640		0.05	0.0243	--	12.6	12.1	13	12.5	12.8	12.6
	Molybdenum, Dissolved	EPA 1640				--	12.8	12.4	12.7	12.5	12.5	12.6
	Nickel, Total	EPA 1640		0.05	0.00607	--	0.662	0.643	0.61	0.562	0.66	0.591
	Nickel, Dissolved	EPA 1640				8.2	0.701	0.498	0.205	0.419	0.331	0.62
	Potassium, Total	EPA 6020		10000	744	--	352000	369000	354000	361000	367000	372000
	Potassium, Dissolved	EPA 6020				--	384000	376000	387000	358000	373000	363000
	Selenium, Total	EPA 1640		0.05	0.0121	--	0.0411J	0.0482J	0.0547	0.0463J	0.0463J	0.0421J
	Selenium, Dissolved	EPA 1640				71	0.0506	0.0504	0.0476J	0.0463J	0.0503	0.0506
	Silver, Total	EPA 1640		0.05	0.00822	--	ND	ND	ND	ND	ND	ND
	Silver, Dissolved	EPA 1640				--	ND	ND	ND	ND	ND	ND
	Thallium, Total	EPA 1640		0.03	0.0087	--	ND	ND	ND	ND	ND	ND
	Thallium, Dissolved	EPA 1640				--	ND	ND	ND	ND	ND	ND
	Tin, Total	EPA 6020		10	1.72	--	ND	ND	ND	ND	ND	ND
	Tin, Dissolved	EPA 6020				--	ND	ND	ND	ND	ND	ND
	Titanium, Total	EPA 6020		10	1.32	--	3.36J	5.30J	ND	4.94J	3.07J	6.49J
	Titanium, Dissolved	EPA 6020				--	6.06J	3.91J	7.75J	2.80J	4.03J	1.60J
	Vanadium, Total	EPA 1640		0.05	0.0332	--	3.19	3.11	3.26	3.09	3.2	3.18
Vanadium, Dissolved	EPA 1640	--	2.85			2.87	2.9	2.8	2.85	2.9		
Zinc, Total	EPA 1640	0.500	0.0736	--	7.72	9.32	8.18	8.87	10	7.53		
Zinc, Dissolved	EPA 1640			81	8.51	8.63	5.72	5.73	6.3	8.2		
Nutrients	Perchlorate, Total	EPA 331.0 (M)	µg/L	40	1.2	--	ND	ND	ND	ND	ND	ND
	Phosphorus, Total	EPA 365.1		50	20	--	28J	29J	30J	28J	30J	29J
SVOC	Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	4.8	1.5	--	ND	ND	ND	ND	ND	ND

Notes:
 J = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated
 RL = reporting limit; MDL = minimum detection level; ND = not detected above indicated concentration
 PRE = Pre-show stations; POST = Post-show stations
 µg/L = micrograms per liter
 CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000); CTR for metals applies to dissolved fraction, with the exception of mercury
red = surpasses CTR threshold

DRAFT Big Bay Boom 2016 Chemistry Summary Table

Type	Analyte	Units	MDL	Reporting Limit	CTR	NE Stations									SE Stations									BBBFS-Barge Blank
						BBBFS-NE-1-PRE	BBBFS-NE-1-POST	BBBFS-NE-1-POST-REP	BBBFS-NE-2-PRE	BBBFS-NE-2-POST	BBBFS-NE-3-PRE	BBBFS-NE-3-POST	BBBFS-NE-3-POST-REP	BBBFS-SE-1-PRE	BBBFS-SE-1-POST	BBBFS-SE-1-POST-REP	BBBFS-SE-2-PRE	BBBFS-SE-2-POST	BBBFS-SE-3-PRE	BBBFS-SE-3-POST	BBBFS-SE-3-POST-REP			
Metals	Aluminum, Filtered	µg/L	0.227	1.00	36.0	2.57	3.13	2.52	2.41	3.14	3.38	3.49	3.12	2.54	3.88	3.51	2.42	2.9	2.39	2.8	2.4	2.51		
	Aluminum, Total	µg/L	0.227	1.00		12.9	11.8	16.4	8.9	11.5	12.7	11	12.8	10.5	42.7	33.1	11.2	14.5	8.12	13	15.6	11.3		
	Antimony, Filtered	µg/L	0.0154	0.050		0.137	0.133	0.134	0.143	0.132	0.135	0.138	0.128	0.138	0.135	0.144 B	0.147	0.129 B	0.147	0.153 B	0.167 B	0.143		
	Antimony, Total	µg/L	0.0154	0.050		0.154	0.147	0.145	0.141	0.141	0.164	0.131	0.128	0.164	0.158	0.168	0.144	0.154	0.149	0.126	0.157	0.139		
	Arsenic, Filtered	µg/L	0.0122	0.030		1.32	1.32	1.38	1.41	1.26	1.21	1.37	1.33	1.4	1.33	1.36	1.23	1.34	1.43	1.26	1.47	1.27		
	Arsenic, Total	µg/L	0.0122	0.030		1.41	1.47	1.38	1.38	1.42	1.57	1.27	1.35	1.29	1.29	1.36	1.36	1.32	1.32	1.49	1.36	1.36		
	Barium, Filtered	µg/L	0.0252	0.050		8.16	7.27	7.18	8.02	7.62	7.98	7.54	7.38	8.49	8.26	8.6	8.25	7.48	8.94	8.07	7.64	8.3		
	Barium, Total	µg/L	0.0252	0.050		8.89	7.31	7.32	8.37	7.22	8.6	7.37	7.82	8.61	8.43	8.86	8.29	7.71	9.07	8.18	8.51	8.44		
	Beryllium, Filtered	µg/L	0.0635	0.500		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
	Beryllium, Total	µg/L	0.0635	0.500		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.244 B, J		
	Cadmium, Filtered	µg/L	0.00567	0.030	9.30	0.0766	0.0645	0.0597	0.0747	0.0653	0.0713	0.0647	0.0602	0.0741	0.0766	0.0778	0.0774	0.07	0.075	0.0712	0.0752	0.0718		
	Cadmium, Total	µg/L	0.00567	0.030		0.0768	0.0644	0.0618	0.0822	0.0619	0.0788	0.0691	0.0654	0.0776	0.0772	0.0776	0.0806	0.0744	0.0778	0.0765	0.0516	0.0717		
	Chromium, Filtered	µg/L	0.164	0.500	50.0	ND	0.221 J	0.191 J	ND	0.168 J	ND	0.21 J	ND	0.202 J	0.169 J	ND	ND	ND	0.179 J	ND	ND	ND		
	Chromium, Total	µg/L	0.164	0.500		0.19 J	0.222 J	0.28 J	0.194 J	0.201 J	0.183 J	0.24 J	0.199 J	0.204 J	0.299 J	0.347 J	ND	0.212 J	0.169 J	0.234 J	0.2 J	0.167 J		
	Cobalt, Filtered	µg/L	0.00486	0.050		0.267 B	0.222 B	0.198 B	0.235 B	0.202 B	0.268 B	0.224 B	0.197 B	0.24 B	0.237 B	0.214 B	0.248 B	0.195 B	0.25 B	0.192 B	0.173 B	0.193 B		
	Cobalt, Total	µg/L	0.00486	0.050		0.236 B	0.182 B	0.233 B	0.146 B	0.171 B	0.205 B	0.169 B	0.269 B	0.225 B	0.171 B	0.266 B	0.267 B	0.33 B	0.223 B	0.247 B	0.192 B	0.154 B		
	Copper, Filtered	µg/L	0.00898	0.030	3.10	3.05	2.47	2.39	2.83	2.16	3.06	2.43	2.14	3.13	4.56	4.53	3.3	2.67	3.29	2.56	2.78	2.61		
	Copper, Total	µg/L	0.00898	0.030		3.25	2.7	2.32	2.94	2.2	3.37	2.52	2.47	3.93	5.58	6.41	4.14	3.56	3.48	2.98	2.53	3.11		
	Iron, Filtered	µg/L	0.0634	0.500		8.39	10.7	6.54	8.29	10.6	10.3	12	9.73	8.56	9.83	9.16	8.17	9.27	7.58	9.47	9.51	8.45		
	Iron, Total	µg/L	0.0634	0.500		37.4	39.7	52.5	31.3	39.3	36.4	38.9	35	34.5	130	124	34.9	46.6	24.6	43.3	37.9	37		
	Lead, Filtered	µg/L	0.0135	0.030	8.10	0.0455	0.0544	0.06	0.0511	0.0608	0.0514	0.0607	0.0764	0.0485	0.0694	0.114	0.0562	0.0712	0.0688	0.0819	0.075	0.0746		
	Lead, Total	µg/L	0.0135	0.030		0.119	0.108	0.124	0.153	0.132	0.129	0.13	0.118	0.12	0.175	0.182	0.095	0.134	0.145	0.157	0.0856	0.113		
	Manganese, Filtered	µg/L	0.0336	1.00		6.9 B	3.29 B	3.21 B	6.1 B	3.17 B	6.44 B	3.57 B	3.56 B	8.02 B	6.1 B	6.75	7.98 B	4.82	8.31 B	4.82	4.64	4.7 B		
	Manganese, Total	µg/L	0.0336	1.00		8.78 B	4.12 B	4.9 B	7.41 B	3.96 B	7.62 B	4.58 B	4.33 B	9.27 B	9.16 B	9.83 B	11 B	6.35 B	9.31 B	6.19	5.08	5.87 B		
	Mercury, Filtered	mg/L	0.0000321	0.00005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
	Mercury, Total	mg/L	0.0000321	0.00005	0.0005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
	Molybdenum, Filtered	µg/L	0.0243	0.050		13.3	12.8	12.7	13.1	13.4	12.9	13.2	12.6	13.8	12.8	13.1	13.2	12.3	13.5	13.8	13.3	13		
	Molybdenum, Total	µg/L	0.0243	0.050		13.1	12.3	12.5	13.2	12.9	13.8	12.8	12.9	12.7	12.4	12.3	12.7	12.1	12.6	12.1	14.4	12.4		
	Nickel, Filtered	µg/L	0.00607	0.050	8.200	3.35 B	2.95 B	2.64 B	2.92 B	2.62 B	3.43 B	2.99 B	2.64 B	2.89 B	2.89 B	2.55 B	3.03 B	2.5 B	3.07 B	2.41 B	2.09 B	2.47 B		
	Nickel, Total	µg/L	0.00607	0.050		2.65 B	2.3 B	3.08 B	1.41 B	2.03 B	2.28 B	1.95 B	3.63 B	2.58 B	2.81 B	2.84 B	5.26 B	2.6 B	2.87 B	2.12 B	1.86 B	2.84 B		
	Potassium, Filtered	mg/L	0.0744	1.00		289	279	274	285	278	278	278	268	278	284	284	278	281	277	277	275	275		
	Potassium, Total	mg/L	0.0744	1.00		288	281	277	270	277	281	275	272	276	287	280	276	279	274	281	325	271		
	Selenium, Filtered	µg/L	0.0121	0.050	71.0	0.0215 B, J	0.0365 B, J	0.0229 B, J	0.0863 B	0.028 B, J	0.0351 B, J	0.0271 B, J	0.0235 B, J	0.0286 B, J	0.0257 B, J	0.0317 J	0.0314 B, J	0.0237 J	0.0406 B, J	0.0271 J	0.0377 J	0.0204 B, J		
	Selenium, Total	µg/L	0.0121	0.050		0.0311 J	0.027 J	0.0222 J	0.0419 J	0.0401 J	0.0397 J	0.0258 J	0.0428 J	0.0207 J	0.0391 J	0.0382 J	0.0404 J	0.0316 J	0.0295 J	0.0423 J	0.0345 J	0.0359 J		
Silver, Filtered	µg/L	0.00822	0.050		0.0357 J	ND	ND	0.0176 J	0.0177 J	0.0146 J	ND	ND	0.027 J	ND	ND	ND	ND	0.0134 J	ND	ND	ND			
Silver, Total	µg/L	0.00822	0.050		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0161 J	ND	ND	ND	ND	ND	ND	ND			
Thallium, Filtered	µg/L	0.0087	0.030		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Thallium, Total	µg/L	0.0087	0.030		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Tin, Filtered	mg/L	0.00172	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Tin, Total	mg/L	0.00172	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Titanium, Filtered	mg/L	0.00132	0.010		0.00784 J	0.00838 J	0.0064 J	0.0139	0.00701 J	0.00836 J	0.00756 J	0.00736 J	0.00889 J	0.0093 J	0.0108	0.00756 J	0.0109	0.0092 J	0.00457 J	0.00992 J	0.0093 J			
Titanium, Total	mg/L	0.00132	0.010		0.00959 J	0.00556 J	0.00257 J	0.0173	0.00794 J	0.0063 J	0.00202 J	ND	0.00175 J	0.0105	0.00458 J	0.00309 J	0.00282 J	ND	0.0025 J	0.0216	0.0115			
Vanadium, Filtered	µg/L	0.0332	0.050		3.04	2.9	2.87	2.92	2.91	3.11	3.04	2.88	3.12	3.07	3.06	3.09	2.93	3.17	2.93	2.88	2.96			
Vanadium, Total	µg/L	0.0332	0.050		3.24	2.89	3.22	2.62	2.79	3.08	2.7	3.07	3.28	3.56	3.66	4.05	3.29	3.08	3.08	2.65	3.05			
Zinc, Filtered	µg/L	0.0736	0.500	81.0	7.2	3.98	4.4	6.46	5.09	7.16	6.83	7.46	7.91	5.57	7.58	10	7.6	11.1	11.8	7.6	8.52			
Zinc, Total	µg/L	0.0736	0.500		9.17	4.41	5.22	7.57	5.37	7.78	6.27	7.19	8.48	6.69	8.54	12.3	8.51	12.8	12	6.63	8.6			
Nutrients	Perchlorate	µg/L	0.500	20.0		3.9 J	2.8 J	6.4 J	0.82 J	0.98 J	ND	2.3 J	5.6 J	4.8 J	0.71 J	0.56 J	ND	0.5 J	ND	4.5 J	NA			
	Phosphorus, Total	mg/L	0.020	0.050		0.025 J	ND	0.058	ND	ND	0.027 J	ND	0.040 J	ND	0.030 J	0.05	ND	0.044 J	ND	0.023 J	0.057			
SVOC	Bis(2-Ethylhexyl) Phthalate	µg/L	1.50	4.80		ND	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND	ND	ND	ND	ND	ND	ND	ND			

Notes:
 SVOC - semivolatle organic compounds
 B - Analyte was present in the associated method blank.
 J - Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
 * - the reporting limit for Bis(2-Ethylhexyl) Phthalate in these samples was 4.9 µg/L instead of 4.8 µg/L.
 NA - not analyzed
 MDL - minimum detection limit
 µg/L - micrograms per liter
 mg/L - milligrams per liter
 CTR - California Toxics Rule, Continuous Concentration Criteria for saltwater (2000); CTR for metals applies to dissolved fraction, with the exception of mercury
 red - surpasses CTR threshold

Entered by CCS on 7/26/16
 QC: TH on 08/09/2016

Response to Comment F-1

This comment is an introductory comment indicating that the Coastal Environmental Rights Foundation (CERF) is providing comments on the Draft EIR and believes the Draft EIR is legally deficient.

The District appreciates CERF's interest in the proposed project. This general comment does not raise any issues needing a response pursuant to CEQA. The specific comments raised in the pages that follow this introduction are listed separately along with the District's individual responses.

Response to Comment F-2

This comment summarizes the list of impairments for San Diego Bay as described in the Draft EIR. The comment also restates the methodology used in the Draft EIR for determining the water quality effects of the proposed new fireworks display events. The comment further states that the Draft EIR's analysis is flawed for various reasons that follow.

The comment repeats information provided in the Draft EIR related to existing water quality conditions in the San Diego Bay and indicates that the Draft EIR relies on the Big Bay Boom water quality monitoring data. The commenter indicates that the analysis is flawed in numerous respects, which are listed in subsequent comments to which the District responds below. No further response is required.

Response to Comment F-3

The comment cites information from the Draft EIR regarding the water quality monitoring methodology for the 2016 Big Bay Boom and objects that the Draft EIR incorrectly notes these results.

The statement in the 2016 Big Bay Boom Water Quality Monitoring Report that sample collection was initiated approximately 5-minutes prior to the conclusion of the fireworks show is incorrect. This statement is an oversight by the report preparer, which is the same firm that prepared the water quality technical report for the proposed project. The actual sample collection scenario occurred in the following manner:

To allow for samples to be collected immediately adjacent to the fireworks barge at the end of the show, Amec Foster Wheeler staff constructed a sample collection apparatus consisting of a peristaltic pump contained within an enclosed plastic barrel. The pump's tubing extended from the peristaltic pump into the surface waters of the Bay, then back into a certified clean 1-gallon glass collection bottle located inside the barrel. The collection devices were attached to the side of the barges upon arrival at the launch site. There were two devices attached to each of two barges (the barge off of the Midway Museum and the barge off of Seaport Village). On each barge, one peristaltic pump was pre-programmed to begin collection at 9:20 pm and the other was set to begin collection at 9:22 pm. All the pumps were pre-programmed at the dock during the mobilization process at the G Street Mole Pier several hours before the fireworks show began. The goal of pre-programming the water sampling pumps for these two collection times was to ensure that samples were captured immediately following the 20-minute-long fireworks show that was planned to start at 9:00 pm. The field collection datasheets in the 2016 Big Bay Boom Final Report on pages 183 and 184 (of the 187-page PDF) verify that the "Time 0" post-show samples were collected at 21:20 and 21:22. The collection times were staggered by 2 minutes to ensure that samples would be collected

immediately at the end of the show, or as close as possible if the show start time was delayed by a few minutes.

This reference to samples being collected 5 minutes prior to the end of the show has been corrected in the 2016 Big Bay Boom Report and a revised report will be submitted to the Regional Water Quality Control Board (RWQCB) with a more accurate description of the post-show collection times. Because the samples actually were taken at the end of the show, they accurately reflect water quality impacts.

Response to Comment F-4

The comment states that the analysis of limited SeaWorld and Big Bay Boom monitoring data does not support the conclusion in the Draft EIR that the proposed project would not violate water quality standards or waste discharge requirements. The comment states that the monitoring data indicates water quality exceedances for copper.

This comment repeats information provided in the Draft EIR and states an objection that the analysis is not supported by monitoring data. There is no clear relationship between the fireworks display timing and copper levels in the surface waters. The Big Bay Boom monitoring shows that exceedances of the dissolved copper California Toxic Rule (CTR) criterion were just as likely to occur before the fireworks event as after the event. This is true whether the samples were analyzed for dissolved or total copper in the collected Bay water samples. A more detailed discussion is provided in response to comment F-5 below.

As discussed in Section 4.6, *Hydrology and Water Quality*, of the Draft EIR, water quality monitoring of the Big Bay Boom fireworks display events since 2013 has shown no substantial degradation of water quality when comparing ambient chemical levels (pre-show) with post-show levels. The proposed new fireworks display events would be substantially smaller than the Big Bay Boom and, therefore, would result in substantially less amounts of fireworks-generated chemical residues falling into the Bay. No sediment monitoring has been conducted as part of the existing Big Bay Boom monitoring program, but SeaWorld has conducted considerable sediment testing in Mission Bay, and its fallout zone is shallower and has more restrictive current and tidal flow compared to the anticipated launch sites for the proposed new fireworks display events. As the San Diego RWQCB noted in the General Permit, SeaWorld events likely represent the maximum firework pollutant loading conditions and cumulative effects in the San Diego region, including the Pacific Ocean, with respect to potential impacts of fireworks on water and sediment quality. While SeaWorld's testing has found an increase of some chemicals within the sediments in the fireworks fallout zone, the observed increase has not resulted in any toxicity or benthic community impacts. As such, it is anticipated that the proposed new fireworks display events would not result in any sediment toxicity or benthic community impacts, as these displays would be smaller, would occur much less frequently, and would be held in an area subject to greater current and tidal flow than the SeaWorld fireworks displays. Consequently, the Draft EIR determined that the proposed new fireworks display events would not violate any water quality standards or waste discharge requirements, and potential impacts would be less than significant.

Response to Comment F-5

The comment summarizes the results of the Big Bay Boom water quality monitoring for 2014, 2015, and 2016 for total copper and total dissolved copper. The comment states that some of the samples

in each of these monitoring years indicated copper exceedances of the CTR and were higher post event. The commenter further states that any additional amount of copper discharged into San Diego Bay would result in an exceedance of an applicable water quality standard because the Bay is listed as impaired for copper.

There is no clear relationship between the fireworks display timing and copper levels in the surface waters. The Big Bay Boom monitoring shows that exceedances of the dissolved copper CTR criterion were just as likely to occur before the fireworks event as after the event as detailed below. This is true whether the samples were analyzed for dissolved or total copper in the collected Bay water samples.

Specifically, dissolved copper analyses conducted following the 2014 Big Bay Boom Fireworks found no CTR exceedance of the dissolved copper criterion (3.1 micrograms per liter [$\mu\text{g/L}$]). Dissolved copper analyses conducted following the 2015 Big Bay Boom Fireworks found that all samples, whether collected before or after the show, exceeded the CTR dissolved copper criterion (3.1 $\mu\text{g/L}$). The pre-show samples ranged from 3.14 to 3.85 $\mu\text{g/L}$ and the post show samples ranged from 3.13 to 3.70 $\mu\text{g/L}$. Dissolved copper analyses conducted following the 2016 Big Bay Boom Fireworks at the Midway Museum launch site found no CTR exceedances either before the show or after. Dissolved copper analyses conducted following the 2016 Big Bay Boom Fireworks at the Seaport Village launch site found all three pre-show samples exceeded the CTR criterion ranging from 3.13 to 3.30 $\mu\text{g/L}$. Two of the five post-show samples (including site replicates) exceeded the dissolved copper CTR criterion (both in the "Time 0" samples) and ranged from 4.53 to 4.56 $\mu\text{g/L}$. While the "Time 0" post-show samples with dissolved copper concentrations of 4.53 and 4.56 $\mu\text{g/L}$ collected in 2016 adjacent to the Seaport Village fireworks barge exceeded the CTR criterion, and were the highest concentrations observed between 2014 and 2016, the "Time 0" post-show samples collected adjacent to the Midway Museum launch barge (2.47 and 2.39 $\mu\text{g/L}$) did not exceed the CTR dissolved copper criterion and were lower than the pre-show sample (3.05 $\mu\text{g/L}$).

Based upon these collective findings, there is no clear temporal relationship between the fireworks displays and copper levels in the surface waters within the sample collection footprint. Dissolved copper CTR criterion exceedances were just as likely to occur before the fireworks events as after the events. With regard to using the copper conversion factor (0.82), 40 CFR § 131.38 (note to Table 2 of paragraph (b)(2)) reads: "The term 'Conversion Factor' represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column." Using the copper conversion factor is not necessary since dissolved copper levels were analyzed for the Big Bay Boom monitoring event and these results can be compared directly to the CTR dissolved copper criterion of 3.1 $\mu\text{g/L}$. In addition, as was observed for dissolved copper measurements, the samples analyzed for total copper at each station within the study area were just as likely to be greater before the fireworks events as after the events. These findings represent the natural variability of copper levels in the surface waters within the study footprint based on dynamic environmental conditions.

As evidenced above, there is no clear connection between the copper levels observed in the Big Bay Boom samples and the fireworks displays. It is understood that portions of the Bay are Clean Water Act 303(d)-listed for copper and copper levels that exceed the CTR criterion have occurred in the collected Bay water samples; however, based upon the Big Bay Boom findings, it does not appear that the fireworks are the source of this copper; rather these observed copper levels reflect ambient conditions. As such, no changes to the Final EIR are required.

Response to Comment F-6

The comment cites the San Diego RWQCB's General Fireworks Permit, which concluded that larger firework events result in levels of certain pollutants above water quality criteria and have the potential to cause or contribute to an exceedance of sediment quality objectives of the permit. The comment states that larger fireworks events include Fourth of July events other than just the Big Bay Boom.

The section of the Fireworks General Permit Fact Sheet to which the comment refers specifically addresses the SeaWorld fireworks shows. The RWQCB was concerned that larger (than usual) shows conducted in the shallow, semi-enclosed embayment in Mission Bay where SeaWorld's launch platform is located would cause or contribute to an exceedance of narrative sediment quality objectives. As this does not refer to the Big Bay Boom or the San Diego Bay, no changes to the Final EIR are required.

Response to Comment F-7

The comment states that the Draft EIR's conclusion that the proposed new firework display events would not violate water quality standards or waste discharge requirements is undermined by the previously stated data.

Please see responses to comments F-3 through F-6. There has been no clear temporal pattern linking the copper levels observed in the Bay water samples to the Big Bay Boom fireworks displays. At individual collection locations, higher copper levels were sometimes found in pre-show samples and sometimes post-show for both total and dissolved forms of copper. In addition, for the 2016 Big Bay Boom monitoring event, while CTR exceedances (both pre- and post-show) were observed for the samples collected adjacent to the Seaport Village launch barge, no such exceedances were observed in the samples collected off of the Midway Museum (even though the collection operations were identical). No changes to the Final EIR are required.

The comment also states that the proposed ordinance "enables" fireworks events like the Big Bay Boom. This comment is incorrect. The proposed ordinance applies to all fireworks display events, including existing events that like the Big Bay Boom that are not subject to CEQA. Thus, rather than "enabling" existing events, the proposed ordinance requires events that otherwise would not be subject to environmental review under CEQA to comply with the conditions of approval set forth in the proposed ordinance. As discussed in the Draft EIR, the proposed ordinance will have beneficial, not adverse, impacts on the environment making existing fireworks display events subject to its provisions.

Response to Comment F-8

The comment states that mitigation measure MM-WQ-1 does not reduce water quality impacts discussed in comments F-2 through F-7 to a less-than-significant level and cites multiple case law citations.

The comment states an opinion regarding MM-WQ-1, but does not provide any facts or data in support of the opinion. Legal citations and attorney arguments do not constitute substantial evidence. Accordingly, no further response is possible or required.

Response to Comment F-9

The comment states that Operation Clean Sweep does not address water quality impacts from debris resulting from year-round fireworks shows or correlates to the type and scale of the impact caused by fireworks debris. The comment cites text from Appendix F of the Draft EIR regarding the estimated quantity of debris that would be expected to remain in the water following each proposed new Fourth of July fireworks display event. The comment suggests that the required General Fireworks Permit BMPs are generally ineffective based on post-event monitoring reports for all major fireworks events under the General Permit.

As stated in Section 15370 of the State CEQA Guidelines, mitigation can include “rectifying an impact by repairing, rehabilitating, or restoring the impacted environment” and “compensating for the impact by replacing or providing substitute resources or environments.” Mitigation measure MM-WQ-1 requires a series of actions by the fireworks organizer to collect fireworks trash and debris that makes up 50 percent of the net weight of the fireworks launched during the fireworks display event. These actions begin immediately after the fireworks display event and include follow-up trash collection efforts in the vicinity of the launch area the following day. In the event that less than 50 percent is collected, “Operation Clean Sweep” is intended to rectify or compensate for the remaining amount of fireworks trash and debris by recovering other trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront, thereby compensating for the impact by removing an equivalent amount of non-fireworks related trash and debris from these water bodies.

In addition, the comment incorrectly states the significance determination conclusions in Section 4.6, *Hydrology and Water Quality*, of the Draft EIR. As stated on page 4.6-36 in Section 4.6 of the Draft EIR, MM-WQ-1 would ensure that fireworks-generated debris is properly cleaned up and disposed of, thereby reducing the amount of unrecovered fireworks debris that could create or contribute substantial additional sources of polluted runoff and substantially degrade water quality. However, uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris related to fireworks on surface waters. Because of these various factors, the Draft EIR concludes that impacts would be significant and unavoidable. Accordingly, the Draft EIR adequately acknowledges the contribution of fireworks trash and debris to significant water quality impacts. No changes to the Final EIR are required.

Response to Comment F-10

The comment states that Chula Vista Bayfront fireworks will likely result in significant wildlife impacts, that USFWS recommends no fireworks display events occur at the Chula Vista Bayfront during the avian breeding season, that the Draft EIR offers only minimal restrictions to address wildlife agencies’ concerns, and that the restriction of concussion salutes during the first 25 percent of a display fails to ensure the remainder of the show will not result in significant wildlife impacts.

Section 4.3, *Biological Resources*, of the Draft EIR analyzes potential impacts on wildlife and concludes the proposed new Fourth of July fireworks display events at the Chula Vista and National City Bayfronts will have significant impacts on biological resources. The Draft EIR recommends specific mitigation measures to address these impacts and determined that the recommended measures would reduce impacts below a level of significance. The Draft EIR thus analyzes potential wildlife impacts and proposes mitigation measures for the three fireworks display events at the Chula Vista Bayfront, which were previously authorized by the Chula Vista Bayfront Master Plan

Settlement Agreement. Although the Fourth of July fireworks display event would occur during the avian breeding season, the Draft EIR indicates that the other two events at the Chula Vista Bayfront would occur outside the avian breeding season. The District also addresses concerns expressed by the wildlife agencies in the responses to comments they provided in Comment Letter B (USFWS) and Comment Letter E (CDFW). All potentially significant biological resources impacts would be less than significant with the implementation of mitigation, including the restriction on concussion salutes. No further response is required.

Response to Comment F-11

The comment states that the Draft EIR fails to substantiate how eelgrass surveys and potential subsequent mitigation will account for fireworks-related impacts. The comment also states that direct habitat destruction and impacts from fireworks residue and debris deposition would not be evident through spatial surveys and that long-term impacts on eelgrass would be significant and unmitigated.

The comment has raised concerns over the ability to detect impacts on eelgrass from fireworks display events and has stated that direct and indirect impacts would not be detectable through surveys. The proposed surveys would be completed in accordance with the California Eelgrass Mitigation Policy (CEMP) (NMFS 2014), as stated in the Draft EIR. The methods for survey and impact analysis under the CEMP are tailored to the detection of impacts based on the nature and scale of the potential effect. For the proposed activities, surveys would make use of sidescan sonar and bathymetric swath survey technologies that provide a comprehensive acoustic image of the seafloor in the area of potential impact. The image creates a raster image with a pixel size of approximately 6 centimeters on a side. At this resolution, the imagery allows for detection of vessel propeller scarring, grounding, and other direct impacts at a high resolution. As a result, surveys provide a good tool for detection of physical impacts associated with fireworks related activities. The CEMP provides explicit direction on mapping eelgrass impacts and mitigation of impacts inclusive of replacement ratios, monitoring methods, and success standards and progress milestones. This standard has been adopted by resource and regulatory agencies throughout the state in order to ensure consistency in methods for surveying, assessing impacts, mitigating, and monitoring of eelgrass mitigation.

Fireworks residue and debris deposition do not have a potential to affect eelgrass habitat at the potential discharge scales anticipated from the contemplated and ongoing activities. Eelgrass is a very resilient plant that is not particularly susceptible to marine sediment contaminants and has even been considered and tested as a potential tool for sediment bioremediation through capitalizing on root uptake and binding of metals and transformation of organic compounds. However, because of the rapid rate of growth, senescence, and degradation to detritus, eelgrass shows little promise for long-term sequestering conserved contaminants without eelgrass harvest. Eelgrass can persist and thrive in metal and organic compound enriched sediments and thus is not expected to be damaged by low-level discharges of pollutants. Relative to potential for eelgrass impact from debris deposition, at high levels, eelgrass may be damaged by debris accumulation due to smothering or loss of suitable substrate. This can happen with major macroalgal blooms or discharges of significant detrital wastes into the intertidal or subtidal environment (e.g., wood and pulp waste around mills and log storage areas in the Pacific Northwest). However, in general, eelgrass is a detrital trap and benefits from capture and stabilization of detritus in the beds in a manner that supplies carbon and other nutrients to the sediment through decay. Eelgrass is well adapted to accumulate low levels of debris and sediments within the beds as a result of the trapping

properties of the bed structure. In general, the majority of the debris in an eelgrass bed is derived from eelgrass leaf decay, but beds also regularly accumulate macroalgae, salp mucus strings, bryozoa, negatively buoyant anthropogenic wastes, and other debris. At low accumulation rates, this does not result in damage to eelgrass beds.

The conclusions of the Draft EIR with respect to potential eelgrass impacts (Impact-BIO-6) and recommendations for mitigation measure MM-BIO-3, including implementation of compensatory mitigation as required under the CEMP, remain unchanged. No changes to the Final EIR are required.

Response to Comment F-12

The comment states that the Draft EIR fails to analyze air quality and GHG emissions from visitor traffic and cites information provided in the Draft EIR, which explains the inability to assess traffic-related impacts associated with fireworks display events through a conventional traffic impact analysis. The comment asserts this is improper. The comment also quotes various sources regarding the large number of people attracted by the Big Bay Boom event.

The comment repeats information provided in the Draft EIR and does not identify in what way the methodology used in the Draft EIR to analyze potential transportation impacts is improper or provide any evidence in support of the comment's assertions. No alternative methodology is suggested in this comment. In addition, the information regarding the number of people who attend the Big Bay Boom and their use of public transit, shuttles and pre-purchased reserved parking is consistent with the information provided in the Transportation Assessment (Appendix J of the Draft EIR). As discussed in Section 4.10, *Transportation, Circulation, and Parking*, of the Draft EIR, the forecasted traffic impacts associated with the proposed new fireworks display events on the Chula Vista and National City Bayfronts are based on data gathered from previous Imperial Beach Fourth of July Show events and not Big Bay Boom. No further response is required.

Response to Comment F-13

The comment cites the California Code of Regulations and case law and states that the District must analyze what is reasonably feasible and provide adequacy, completeness and a good faith effort at full disclosure.

This comment cites sections of the California Code of Regulations and case law relating to environmental review under CEQA, but does not raise an environmental issue relating to the Draft EIR. As the comment relates to legal rather than environmental issues, no further response is required.

Response to Comment F-14

The comment cites an excerpt of the methodology provided in the Traffic Assessment (Appendix J). The comment states that the Big Bay Boom boasts a massive attendance and that the Big Bay Boom sponsors suggest spectators take public transit because of traffic impacts, although pre-purchased parking is available for the event. The comment identifies the free shuttle service provided by the District.

The comment repeats information provided in Appendix J of the Draft EIR. The comment also describes existing conditions related to the Big Bay Boom event, which are part of the

environmental setting, not the proposed project. The environmental impacts of the proposed project are fully disclosed in the Draft EIR. As discussed in Section 4.10, *Transportation, Circulation, and Parking*, of the Draft EIR, the proposed project would result in significant and unavoidable traffic impacts due to increases in vehicular, pedestrian, and bicycle volumes and temporary congestion, as well as an inadequate supply of parking. Mitigation measure MM-TRA-1, as described in Section 4.10 of the Draft EIR, requires implementation of an Event Transportation and Parking Management Plan to facilitate the movement of vehicular, pedestrian, and bicycle traffic. The Event Transportation and Parking Management Plan would further help to safely accommodate the additional vehicular, pedestrian, and bicycle traffic accessing the individual event locations and reduce potential conflicts between different modes of transportation, thereby improving the safety of roadway, bicycle, and pedestrian facilities. In addition, the Event Transportation and Parking Management Plan would improve vehicle, bicycle, and pedestrian circulation, consequently improving the performance of roadway, bicycle and pedestrian facilities. Regarding the significant impacts on parking, the Event Transportation and Parking Management Plan would include measures and tools to deal with parking, such as offsite parking arrangements, promotional programs with rideshare vendors, a joint event/transit ticketing program with MTS, and expanded shuttle operations, among others. Therefore, no change to the Final EIR is required.

Response to Comment F-15

The comment states that the Big Bay Boom is featured as an event that activates Port Tidelands and is intended to bring business to the Port tenants. The comment states the attendance for the Tidelands Activation Program is estimated at 500,000 people.

The Draft EIR agrees that the Big Bay Boom fireworks display event is a large event that attracts many spectators. The comment relates to an existing condition, not the effects of the proposed project. Therefore, the comment does not raise any environmental issues requiring a response.

Response to Comment F-16

The comment cites information from the Traffic Assessment (Appendix J) regarding the changes in traffic volumes that were observed prior to and just after the Big Bay Boom event.

The comment repeats information provided in Appendix J of the Draft EIR and does not raise any environmental issue regarding the adequacy of the analysis in Appendix J or in Section 4.10, *Transportation, Circulation, and Parking*, of the Draft EIR. Accordingly, no further response is warranted or possible.

Response to Comment F-17

The comment cites case law related to a lead agency being required to inform itself about different methodologies available. The comment also states that methodologies and data are available to assess traffic impacts and calculate vehicle miles traveled (VMT). The comment states that the Draft EIR identifies the additional information necessary to calculate VMT, and that this information is readily available. The comment states that the lack of analysis of GHG emissions or air quality impacts associated with spectator traffic violates CEQA.

This comment suggests that the Draft EIR ignored traffic impacts associated with the proposed new fireworks display events and that information is available to adequately calculate VMT. The potential impacts on transportation and traffic that may result from the proposed project are

analyzed in Section 4.10, *Transportation, Circulation, and Parking*, of the Draft EIR. The Draft EIR clearly describes the characteristics of the proposed new fireworks events that affect the methodology selected to analyze potential impacts. Among other information, the Draft EIR explains that VMT cannot be accurately estimated given a multitude of uncertainties in estimating the number of visitors, how visitors arrived at the event, how far patrons traveled, routes taken, where patrons parked, and whether or not patrons were at the viewing locations specifically for fireworks or there for other reasons. For instance, one could estimate overall attendance for the shows, but attendance information would need to be location-specific, include a breakdown of mode shares and travel distance and travel path, as well as cover all shows on all days, while also estimating the portion of visitation attributed directly to the shows and the portion of visitation attributed to the typical park area attendance. Assumptions could be made for each of the data requirements above; however, these assumptions would be based on region travel patterns or data associated with other events (such as concerts) and may not accurately project the VMT associated with the unique event being analyzed. Given these reasons, it would be too speculative to estimate VMT associated with the fireworks events and any results would be unreliable.

The *Berkeley* case the commenter cites also goes on to cite various sections of CEQA that support the approach taken in the Draft EIR. For example, State CEQA Guidelines Section 15144 states that a lead agency “must use its best efforts to find out and disclose all that it reasonably can,” and State CEQA Guidelines Section 15145 states, “if, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact.” The analysis satisfies its CEQA requirement to disclose and not speculate about VMT from visitor traffic.

Furthermore, the Draft EIR analyzes the potential impacts of the proposed new fireworks events on air quality in Section 4.2, *Air Quality and Health Risk*, and on GHG emissions in Section 4.4, *Greenhouse Gas Emissions, Climate Change, and Energy*. The analysis of air quality and GHG emissions from visitor traffic similarly satisfies its CEQA requirement to disclose and not speculate about air quality and GHG emissions and related impacts. Under Threshold 2 in Section 4.2 of the Draft EIR, analysis is provided that evaluates hourly background monitoring on both event and non-event days, and concludes that visitor-related vehicle traffic for infrequent fireworks display events has minimal effect on background air quality and results in minimal GHG emissions far below thresholds as identified in Section 4.4 of the Draft EIR. Thus, because the Draft EIR makes an effort to disclose all that it reasonably can, the Draft EIR is consistent with CEQA and no further analysis is warranted.

Response to Comment F-18

This comment concludes the comment letter and provides a contact name and information.

The District appreciates CERF’s interest in the proposed project. This comment does not raise any issues needing a response pursuant to CEQA.

4.4.7 Comment Letter G: Fireworks & Stage FX America



(619) 938-8277, Fax (619) 938-8273
 P. O. Box 488
 Lakeside, CA 92040

April 18, 2017

Matt Valerio
 Port of San Diego
 3165 Pacific Highway
 San Diego, CA 92101

Dear Mr. Valerio:

Thank you so much for the opportunity to discuss the proposed Fireworks Display Ordinance and allow us to comment on the draft EIR. We proudly support a clean San Diego and will do all we can to make sure that fireworks have a minimum impact on our vital ecosystems.

G-1

Attached are our initial comments and some questions. Some of the language is confusing and needs clarification. We hope we can provide any input to make these clear and easy to enforce. We have also included the Best Management Practices from Meeting Facilitators, LLC, a SDRWQB Permittee and the company we work with when doing shows on the harbor.

Please feel free to contact me with any questions you may have. We look forward to working with you to continue our fireworks tradition in a safe, clean and responsible manner.

Sincerely,

J. Scott Danielson, Sales & Operations Manager
 324170

Comments to Plan: C=Comment, Q=Question

E#S.2.3 Project Objectives Page ES3 Footnote 1.

G-2 | . . . and other display pieces that exceed the limits of explosive materials for classification as “consumer fireworks.” Q-Does this by reference exclude consumer fireworks?

G-3 | They also include fused set pieces containing components that together exceed 50 milligrams of flash powder. These devices do not contain ‘Flash Powder’.

G-4 | Table ES-1 Proposed New Fireworks Display Events . . .
Q-Only Chula Vista, National City and Chula Vista are listed. Does this preclude other singular commercial events or are those grandfathered in under the proposed ordinance?

G-5 | ES.4.2 Summary of Project Alternatives Alternative 2 Quiet Fireworks Pages ES-8 “and mine fireworks”
Mine Fireworks are inherently quiet and including them in the same class as salutes is incorrect.

G-6 | Footnote 2: “120 dB maximum A-weighted impulse sound pressure level as measured at a horizontal distance of 15 meters from the testing point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.”
Q - Is this measuring the lift of the firework or the break. As the break will occur several hundred feet in the air would it not be more appropriate to measure from a spectator area?

G-7 | Mitigation Measure(s) MM-AQ-2(d) 1. Chemical Composition B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available.
Q-Can we reword to say that ‘as fireworks that replace perchlorate with other oxidizers become commercially available’ instead of requiring a variance since none currently exist.

G-8 | MM-BIO-1: Page ES-16 Implementation of Biological Resources (d) 2. Packaging A.C-Please add the phrase “Non-Required” before the word labels. Reason: We cannot remove State and Federal required labels prior to discharge.

G-9 | MM-BIO-1: Page ES17 (f) Best Management Practices (2) ~~barges shall be equipped with a fire-retardant debris barrier that extends six feet (6’) in height, with openings no larger than ¼ inch, around the perimeter of the fireworks launch area to contain debris.~~ Strike this entire sentence. Other than wires that should be secured to avoid displacement (see item 3), very little debris is generated at this area. The danger posed by such a barrier far outweighs any potential environmental benefit. What studies show that a 6’ barrier is any benefit? Would a 4’ barrier be effective? 2’? What if a portion of the barrier goes into the water from winds and waves generated by boat traffic and wind under tow?

- G-10 [Pages ES-19 (9) “Five Persons” is an arbitrary number that does not take into consideration the size of the display, the devices used or the weather conditions at the time of the display. While it is fine to require clean up, it should be at the discretion of the Fireworks Company as to the number required.
- G-11 [Pages ES-19 (10) “Within five (5) business days . . . ” This time is not adequate. Current state law allows for 10 days for reporting and they must allow time for the trash to dry prior to weighing. It didn’t go into the harbor wet.
- G-12 [Page ES-19 (10) “If the weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of Fireworks launched during the fireworks display event” Dependent upon the size and type of fireworks, the fireworks composition can exceed 95% of the weight of the fireworks and that will have been turned into smoke during the display. In some cases (comets and mines) it is 99.9% of the weight of the device and is total consumed while rising. It would be physically impossible to collect 50% of the weight in fireworks trash.
- G-13 [Pages ES-21 and ES-22 Implementation of biological species . . . We are unclear as to who is responsible for this based on confusing definitions.
- G-14 [Pages ES-31 & ES-32 Chemicals and Packaging . . . We cannot remove State and Federal required labels prior to discharge.
- G-15 [Page ES-33 – 6’ Wall: The danger posed by such a barrier far outweighs any potential environmental benefit.
- G-16 [Page ES-34 – Five Days same objection as before, This time is not adequate. Current state law allows for 10 days for reporting and they must allow time for the trash to dry prior to weighing. It didn’t go into the harbor wet. Dependent upon the size and type of fireworks, the fireworks composition can exceed 95% of the weight of the fireworks and that will have been turned into smoke during the display. In some cases (comets and mines) it is 99.9% of the weight of the device and is total consumed while rising. It would be physically impossible to collect 50% of the weight in fireworks trash.
- G-17 [Page ES-34 “Five Persons” is an arbitrary number that does not take into consideration the size of the display, the devices used or the weather conditions at the time of the display. While it is fine to require clean up, it should be at the discretion of the Fireworks Company as to the number required.
- G-18 [Page ES-37 Please clarify definitions for who is responsible for trash receptacles, etc.
- G-19 [Page ES-38 Cumulative Impacts – No allowance has been made for the consideration that fireworks debris is biodegradable.
- G-20 [Page ES-46 Transportation Related Conditions – Make sure that is on the sponsor.
- G-21 [Page 3-1 What is a sponsorship agreement? Who can sign it? Is it required for private events?

- G-22 3.3.4 Fireworks Chemical Constituents Table 3-3 The following compounds are not in use in commercial fireworks and may be prohibited and should be removed from this list:
- Cesium:
 - Lithium
 - Phosphorus (may be used in some Military ordinance but not in fireworks)
- It should be noted that the following chemicals are rarely used and being replaced in Commercial Fireworks
- Zinc
 - Antimony
- G-23 Page 3-7 We object to the term Chemical Residue
- G-24 Page 4.1 The only fireworks display event that currently occurs along the Coronado Bayfront is the Fireworks Show Over Glorietta Bay.
- This is incorrect. There are also private shows for Loews Coronado.
- G-25 Page 4.2-22 Particle Size Distribution. Fireworks made in India do not fall under the same stringent requirements as Fireworks made in the U. S. Hence the Khaparde study should be discounted, especially as to chemicals in the fireworks.
- G-26 Page 4.2-23 Fireworks Material Deliveries: This assumption is entirely incorrect. A typical delivery for an average show will arrive in a 16' parcel van (or smaller) from either Lakeside or Alpine. From Lakeside it is 50 miles round trip. This incorrect assumption is also reported on page 4.4-17
- G-27 Page 4.2-24 Visitor Traffic. This section should not apply or be considered relevant to the fireworks displays not associated with an advertised event such as the Big Bay Boom or San Diego Pops. 4.4-17
- G-28 Page 4.2-24-4.2-25 Health Risk Assessment. "Fireworks contain a mixture of ingredients and metals that are used to project and detonate the fireworks and generate colors. Fireworks can influence the particulate matter directly by emitting firework-related species (such as certain heavy metals) and other particles that include both light and heavy metals, elemental and organic carbon, and perchlorate compounds." Analyzing chemicals in the fireworks cannot be taken into assumption once they have functioned. Because a certain chemical may be included in a compound, once ignited it's form is changed and must be analyzed on that basis. Raw amounts of chemicals are NOT being discharged into the atmosphere or waterways.
- G-29 Page 4.3-1 Impact-BIO-2: Private shows should be exempt from most mitigation measures other than post show clean up as they do not generate foot traffic or trash from the public. Generally they are so small they make little or no impact.

- G-30 Page 4.3-43 Item 9: Requiring five persons per barge for cleanup regardless of the size of the display is punitive and not well thought out. There is a big difference between a Big Bay Boom barge and a San Diego Pops barge in terms of fireworks discharged, weight, debris, etc.
- G-31 Item 10: 5 Business days does not allow materials to dry to be weighed. State law requires 10 days for fireworks reports. State law should be followed.
- G-32 Page 4.3-44 Section X.07 Conditions of Approval. Small private events should be exempt from these items since members of the general public are not invited and no additional impact is generated from an audience. This would significantly impact San Diego's Convention and Tourist Business which is responsible for most non-4th of July Displays other than the San Diego Pops.
- G-33 4.3-47 While we do not dispute that some material does wind up in the bay, we must also take into account the biodegradable nature of the material. Much is like papier Mache and should quickly dissolve. This should be accounted for in the calculation.
- G-34 4.3-49 Effects or Proposed Ordinance on Existing Fireworks Display Events. It is stated that this would have no substantial adverse effect on existing fireworks displays but this assumption is incorrect. Mitigation requirements as proposed will cost Tens of Thousands of dollars for existing non-profit organizations like the San Diego Pops. They would require the Symphony to expend Thousands of Dollars in clean up personnel for armored shore line which is mostly inaccessible when post display clean up in the form of boat cleanup has already taken place.
- G-35 4.3-60 Effects of Proposed ordinance on Existing Fireworks Display Events: This section states that it "does not propose any change in the number or nature of the existing fireworks display events" but this isn't correct. It used a 2015 number that was exceeded in 2016. Since the small private fireworks displays like the Midway fluctuate depending on San Diego's vital tourist trade and have little or not impact on the port, a higher volume of these shows should be allowed. Also the ordinance does not allow for new Barge Shows to service the tourist trade should they arise. These generate both sales tax revenue and again have a small footprint comparatively to large shows like G-30 ig Bay Boom.
- G-36 4.5.2.1 Existing Hazards Related to Pyrotechnic Devices. Many of the chemicals listed, like Arsenic, while used in the distant past, are specifically banned from use in Fireworks. We suggest you speak with modern manufacturing companies to find out the chemicals they are using.
- G-37 4.6-34 Section 3 Wires: Wires are secured in a number of ways and not just tied to nails. A more secure way is to attach them to the mortar themselves. This section should be changed to "Wires should be secured to prevent them from being pulled out and falling into the water." Rather than prescribing a method

G-38

Section 9: Again no consideration is given to the size of the display in the number of persons required. This should be based on the size of the display, and not an arbitrary number. Also the number of persons assigned to operation clean sweep is arbitrary and does not take into account the size of the display. This should be based on show size, not barge Number. This would mean the symphony would have to provide 44 people to operation clean sweep while the Big Bay Boom would only have to provide 8.

G-39

Section 10: Reporting. Again an arbitrary number has been chosen that does not coincide with other agencies. This should be a minimum of 10 days.

General: Explanations and commentary are in blue.

G-40 Section .03 Definitions. This section is unclear on the roles of Fireworks Operators, Fireworks Organizers and Sponsors. Many sections are unclear as to who is responsible for what. We request that you clean up this section to better define those roles. Sponsors hire Fireworks Companies (licensed by the State of California) and Companies hire operators (licensed by the State of California). Customarily, and by contract, Sponsors provide Firing Sites, Security, etc. unless otherwise negotiated. This should be clearly defined in the ordinance.

G-41 “Alternative fireworks” as defined do not exist nor are any in commercial production that we are aware of. This section should be struck.

Section 5. Permits – Application

G-42 The 60 day requirement should be changed to a 10 day permit requirement like the Fire Department and State Law. We suggest instead of issuing permits on individual events, it might be simpler to issue a blanket permit like the Water Quality Board and receive reports. This will simplify making sure all requirements are met because permittees will have satisfied insurance and all other standard requirements in advance of being issued their annual permit.

G-43 Section 7. Location. There are other events such as conventions that launches fireworks from a barge not at any of the stated locations. Provisions should be made to service this vital convention business that generates millions of dollars in revenues.

G-44 Section B. U. S. S. Midway Museum – 23 events are not enough. This fluctuates between seasons. This will severely impact our revenues and cut out sales tax revenues generated by Fireworks Displays. Destination management companies will have their revenues impacted as well since they generally mark up our services to their clients. Since these shows have little or no impact on the port tenants or residents more displays should be allowed. We suggest that this be changed to 80 since these are low-impact with a high dollar return to the Midway and the Port.

G-45 Section C. San Diego Symphony Summer Pops; With the potential for their permanent new entertainment venue this number should be increased. We suggest a minimum of 50.

G-46 (d) Chemical Composition: Currently there are no Commercially Available fireworks that meet this requirement. This section should be struck on those grounds or worded that as they become commercially available they will be used on the bay.

2. Packaging

G-47 a. Please add the words ‘non-required’ labels to the section. There are certain Federal and State Labeling requirements and it would be illegal to remove them.

e. Protection of Sensitive Species and Habitat

G-48 3. Security: Please change to read For *'advertised or non-private'* Fireworks Display Events. Private shows like the Midway do not advertise or bring people into public viewing areas. Also, *'Fireworks Organizer'* should be changed to *'Sponsor'*. It is usually and customary for the Sponsor to provide security on displays and generally a matter of contract between Fireworks Companies and Sponsors.

G-49 4. Signage: For *'advertised or non-private'* Fireworks Display Events . . . Also, *'Fireworks Organizer'* should be changed to *'Sponsor'*, for the reasons listed above.

G-50 5. Education: Beginning not less than Seven (7) days before *'advertised or non-private'* Fireworks Display Events with public . . .". Also, *'Fireworks Organizer'* should be changed to *'Sponsor'*.

(f) Best Management Practices.

G-51 2. While well intentioned, please strike *Unless prohibited by the municipal fire marshal with jurisdiction over the Fireworks Display Even, barges shall be equipment with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.* This is simply a safety issue on many levels. From an operator safety standpoint encasing them in a 6' Enclosure with explosives is obviously unsafe. Also, most of the debris is not generated at this level. Lastly, hopefully we don't need to go into the physics of putting a big giant sail on a barge and trying to tug it on a breezy bay. The barrier will wind up in the water and create a potential maritime hazard.

G-52 3. Please make the following changes: Fires from the electric match placed in the Fireworks Fuse shall ~~be wrapped around nails that are installed on the racks~~ be secured in such a way to prevent wires from being pulled out and falling into the water. Wires are secured in a number of ways and not just tied to nails.

G-53 9. This section should be struck entirely or reworked. First of all, small shows are being discriminated against by this punitive rule. While you have allowed the Big Bay Boom to discharge 5,342 pounds of Fireworks, you are only requiring them to provide 20 man days for clean-up. The San Diego Symphony, conversely, fires 72% less Fireworks and produces much less debris but you are asking them to pay for 100 Man Days, or 80% more cost in bay clean up. This is arbitrary and unfair. Similar comparisons can be made to all other displays. Lastly, this will be delegated by contract to the Sponsor and so this wording should be incorporated. The Symphony will buy 100 man days by contract, not the Fireworks Vendor.

G-54 Section 10: Reporting. Again an arbitrary number has been chosen that does not coincide with other agencies. This should be a minimum of 10 days. Also this section provides the same punitive problem as section 9, asking for man power based on the numbers of barges and not the numbers of fireworks. You are asking the San Diego Symphony to provide 80% more man power for the privilege of firing 72% less fireworks. Also, by contract, this will not fall to the Fireworks Organizer but to the Sponsor and should be worded as such.

- G-55 [Section 11: Change the word *Fireworks Operator* to *Sponsor*. *Sponsors handle security, crowd control, etc. Fireworks Companies do not.*
- G-56 [(h) Event Transportation and Parking Management Plans. Change *Fireworks Organizer* to *Sponsor*. *Fireworks Companies do not undertake parking management, etc. That falls to sponsors.*
- G-57 [Section_.8 (c) Cost Recovery. *What is the fee?*

Response to Comment G-1

This comment is an introductory statement that thanks the District for the opportunity to review and comment on the Draft EIR and indicates that Fireworks America is providing comments on the Draft EIR and the proposed ordinance. The comment concludes by providing a contact name and information.

The District appreciates Fireworks America's interest in the proposed project. This comment does not raise any issues needing a response pursuant to CEQA.

Response to Comment G-2

This comment provides an excerpt from Draft EIR Section ES.2.3, page ES-3, footnote 1 and requests clarification on the Project Objectives with reference to exclusion of consumer fireworks.

The intent of the proposed project is to govern professional grade fireworks display events, rather than consumer fireworks sold to the public for general recreational use. Section 8.02(b)(11) of the District Code prohibits the discharge of fireworks by any person within a District park. This comment does not raise any environmental issues requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required.

Response to Comment G-3

The comment provides an excerpt from Draft EIR Section ES.2.3, page ES-3, footnote 1 and states that flash powder is not used in fused set pieces.

The referenced footnote of the Draft EIR identifies the U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives general definition of a traditional fireworks display event (U.S. ATF 2016). The District understands that there might be some variation in the types of fireworks display used in the United States. This comment does not raise any environmental issues requiring a response pursuant to CEQA. No changes to the Final EIR are required.

Response to Comment G-4

The comment provides an excerpt from Draft EIR Section ES-1 and states that only Chula Vista, National City, and Chula Vista are listed. The comment also asks if this precludes other singular commercial events or if they are grandfathered in under the proposed ordinance.

The proposed project includes four proposed new fireworks display events in Chula Vista and National City, two of which would occur on the Fourth of July. The intent of the proposed project is to govern fireworks display events within the District's jurisdiction, including the existing events identified in Tables 2-1 and 2-2 of the Draft EIR. This comment does not raise an issue regarding the adequacy of the EIR and no response is required pursuant to CEQA. Therefore, no changes to the Final EIR are required.

To clarify, the proposed ordinance would govern existing and proposed new fireworks displays within San Diego Bay and Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the Districts tenants (see Draft EIR Section ES2.4 and the proposed ordinance). The proposed ordinance identifies locations where events can occur, subject to a permit, areas subject to District approval and not identified cannot be used for fireworks displays (see Section X.07(a) of the proposed ordinance. To the extent the comment's reference to being

“grandfathered in” under the proposed ordinance means not subject to the provisions of the proposed ordinance, there are no fireworks display events within the District’s jurisdiction that are exempt from the provisions of the proposed ordinance.

Response to Comment G-5

The commenter states that “mine fireworks” are too quiet to be considered in the same class as “salute fireworks.”

The descriptions of both the Quiet Fireworks Alternative and No Salute Fireworks Alternative have been updated to clarify that salutes are the only type of fireworks that are always specifically designed to be loud. The references to mines and rockets have been removed because these types of fireworks are not always especially loud. All fireworks permitted under the Quiet Fireworks Alternative would still be subject to the noise limit provided in the Draft EIR.

Response to Comment G-6

The comment requests clarification on whether noise measurements considered the lift or the break of the firework, and whether the measurement location was appropriate considering whether the lift or the break was measured.

The noise limit refers to the break noise; the Final EIR has been updated to clarify this. The purpose of having a fixed-distance measurement point is to provide a standard specification for fireworks’ noise levels that can provide a consistent limit for all fireworks regardless of actual launch location. Because the distance to a spectator area will vary from one launch location to the next, the use of a spectator area for noise assessment would provide inconsistent results between launch locations. Therefore, no change has been made to the Final EIR in response to this comment.

Response to Comment G-7

This comment asks for a rewording of the mitigation measure MM-AQ-2(d) 1. to require replacement of perchlorate with other oxidizers as they become commercially available, rather than requiring the permit applicant to establish that such alternative fireworks are not available. The comment does not address the adequacy of the EIR. Therefore, no changes to the Final EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment G-8

The comment is requesting that the phrase “non-required” be added before the word “labels” in MM-BIO-1 (d)2.A (Section X.07 – Permits – Conditions of Approval) because state and federal required labels cannot be removed prior to discharge. The comment does not address the adequacy of the EIR. The District agrees with the commenter and, in response to this comment, the District has made the following revision to the mitigation measure MM-BIO-1:

“2. Packaging.

- A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event.”

and the proposed ordinance §7 (d):

2. Packaging.

- A. Prior to commencement of a Fireworks Display Event, the Fireworks Operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all Fireworks to be used in the event.

Response to Comment G-9

The comment requests that MM-BIO-1 (f)2 be modified to removed references to the 6-foot fire retardant debris barrier, and suggests that such a barrier would pose a risk. The comment further requests studies showing that a 6-foot barrier is effective in containing debris, and requests consideration of barriers of different heights. Please see response to comment J-9 below.

Response to Comment G-10

The comment states that the number of persons required for post-event cleanup (per MM-BIO-1 (f)9) does not take into account the size of the display and other conditions, and that the fireworks company should determine the number of persons required for cleanup at its discretion. The comment requests that the number of persons required to participate in clean-up of fireworks trash and debris should be at the discretion of the fireworks company. The clean-up of fireworks trash and debris required by MM-BIO-1 is required to mitigate the potential significant environmental impacts of the proposed new fireworks display events. Leaving the number of persons required to participate to the discretion of the fireworks company could be considered an improper deferral of mitigation under CEQA. The District has implemented this requirement on prior fireworks events and maintains this number is prudent for larger shows. In light of the importance of this mitigation measure, no change will be made in the Final EIR. Please see also response to comment G-30.

Response to Comment G-11

The comment states that the duration of 5 business days stated in MM-BIO-1 (f)10 is not adequate for reporting, and that state law allows 10 days for reporting. This comment does not address the adequacy of the EIR. In response to this comment the District has revised the requirement in the proposed ordinance §7(f) 10. to match State law and require reporting and weighing in 10 days, as follows:

- “10. Within ~~five~~ ten (510) business days after a Fireworks Display Event, the Fireworks Organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. ...”

And revisions to MM-BIO-1 in the Final EIR, as follows:

- “10. Within ~~five~~ ten (510) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other

launch site used in the fireworks display event to participate in the next scheduled “Operation Clean Sweep” or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.”

Response to Comment G-12

This comment asks that consideration be given to the required collection of trash and debris weighing 50 percent of fireworks show weight be reconsidered because the fireworks components that turn to smoke can be up to 95 percent of the initial weight. The District has not received or been able to obtain any information supporting the identified level of combustible material within a firework. The analysis in the EIR presents a worst-case scenario as it assumes a greater amount of debris could enter the water. In the event less than 50 percent becomes debris, the associated clean up requirements result in additional trash collected from the Bay rectifying or compensating for any potential impact from debris within the Bay whether from the fireworks themselves or incidentally from operations or spectators of the events. In the absence of evidence showing that a smaller percentage of the weight of fireworks ends up as debris that falls to the surrounding land or waters, the requested change in the Final EIR is not warranted.

Response to Comment G-13

The comment states that the parties responsible for implementation of MM-BIO-2 are unclear.

Although the introductory paragraph of MM-BIO-2 indicates that both the fireworks organizer and the fireworks operator are responsible for its implementation, MM-BIO-2 requires compliance with certain provisions of the proposed ordinance that specifically identify which party is responsible for implementation. Therefore, no changes to the Final EIR are required.

Response to Comment G-14

The comment restates concerns about Section X.07 – Permits – Conditions of Approval (see comment G-8) as included in MM-WQ-1 related to removal of state and federal required labels. Please see response to comment G-8.

Response to Comment G-15

The comment restates concerns about Section X.07 – Permits – Conditions of Approval (see comment G-9) as included in MM-WQ-1 related to a 6-foot debris barrier. Please see response to comments G-9 and J-9.

Response to Comment G-16

The comment restates concerns about Section X.07 – Permits – Conditions of Approval as included in MM-WQ-1 that 5 business days is an insufficient time for reporting (see comment G-11), and about the collection of fireworks trash and debris equaling less than 50 percent of the net weight of fireworks launched (see comment G-12). Please see responses to comments G-11 and G-12.

Response to Comment G-17

The comment restates concerns about Section X.07 – Permits – Conditions of Approval as included in MM-WQ-1 requiring a cleanup crew of five persons (see comment G-10). Please see response to comment G-10.

Response to Comment G-18

The comment is requesting clarification related to responsibility for trash receptacles and collection as stated under MM-WQ-2 and Section X.07(f)(11) of the proposed ordinance. These provisions incorrectly state that the “Fireworks Operator” is responsible for increasing the number of trash receptacles at major viewing areas prior to a fireworks display event. The Final EIR and the proposed ordinance has been revised to state that the “Fireworks Organizer” is the party responsible for implementing this measure. This clarifying language is included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment G-19

The comment states that the cumulative analysis under Impact-C-WQ-1 does not acknowledge the biodegradable nature of fireworks debris. This comment asks that consideration be given to the biodegradable nature of fireworks materials under cumulative impacts. The District has not received or been able to obtain any information establishing the specific amount of biodegradable material in fireworks debris. Because a larger amount of biodegradable material in fireworks debris would reduce the potential adverse impact of fireworks debris on the environment, no change in the Final EIR is required.

Response to Comment G-20

The comment states that responsibility for implementation of MM-TRA-1 should be on the project sponsor. This comment does provide any explanation or justification for placing the responsibility for implementing MM-TRA-1 on the fireworks sponsor rather than on the fireworks organizer. Therefore, no changes to the Final EIR are required. For clarification, as identified in MM-TRA-2, implementation of this mitigation measure is the responsibility of the fireworks organizer not the sponsor. The sponsor may ultimately provide the funding used to pay for the event transportation and parking management plan, but it is the responsibility of the organizer to prepare and implement the plan.

Response to Comment G-21

The comment is requesting clarification of sponsorship agreements, signatories, and requirements as discussed in Section 3.1. A Sponsorship Agreement is an agreement by which the District agrees to provide funding or other support for an event.

Response to Comment G-22

The comment is requesting removal of cesium, lithium, and phosphorous from Table 3-3, as they are not used in commercial fireworks. The commenter further states that zinc and antimony are rarely used and are being replaced in commercial fireworks.

The list of fireworks chemical constituents summarized in the Draft EIR and Water Quality Technical report were obtained directly from the RWQCB's General Permit, Fact Sheet Table 1 (Page F-9). No changes to the Final EIR are required in response to this comment.

Response to Comment G-23

The comment objects to the term "chemical residue" as used in Section 3.3.3, subheading *Aerial Fireworks/Shells*.

The term "chemical residue" was taken directly from the RWQCB's General Permit Fact Sheet (Page F-7), which states, "Most of the incendiary elements and shell casings burn up in the atmosphere; however, portions of the casings and some internal structural components and chemical residue fall back to the ground or receiving water bodies..." No changes to the Final EIR are required in response to this comment.

Response to Comment G-24

The comment states that private shows for Loews Coronado also occur along the Coronado Bayfront, and that it is incorrect for the Draft EIR to state that the Fireworks Show Over Glorietta Bay is the only fireworks display event that currently occurs there.

In order to determine the baseline conditions at the time the NOP was issued for public review, the District reached out to regulatory agencies and all tenants and obtained all permits from the member cities and the RWQCB for firework display events that occurred within 2015. Based on this outreach, no shows were identified to occur at Loews Coronado in 2015. Therefore, fireworks display events at Loews Coronado are not included in the Draft EIR or the proposed ordinance as an existing show that requires a discretionary action or is anticipated to require a discretionary action by the District. However, as identified in Table 5-2 of the Draft EIR, Loews Coronado had one barge-based fireworks display event that occurred in 2014 and has been included in the cumulative analysis (Draft EIR, Chapter 5, *Cumulative Impacts*).

Response to Comment G-25

The comment suggests that the Khaparde study referenced on page 4.2-22 should be discounted, as the fireworks made in India are not governed by the same regulations and requirements as those made in the U.S.

The Khaparde study was only referenced to assist in estimating the way combusted particulate matter disperses in the atmosphere since dispersion of particulate matter is dependent on the size and weight of the particles created after burning of the fireworks. The Khaparde study was not used to estimate the total amount of emissions (e.g., pounds per day of PM10) or to determine what chemicals make up the fireworks themselves, but instead was used to estimate the size of the particles following the burning of the fireworks. Moreover, there are no requirements that fireworks used in these events be made in the United States. Therefore, because the Khaparde study was not used to determine what chemicals make up the fireworks, no changes are necessary to the analysis in the Draft EIR.

Response to Comment G-26

The comment states that the material deliveries described on pages 4.2-23 and 4.4-17 are incorrect, and that an assumption of a 16-foot parcel van from either Lakeside or Alpine should have been used.

This assumption was made because it was unknown at the time of analysis where fireworks materials would come from. It is reasonable to assume that materials come from China, and it is reasonable to assume that those fireworks would pass through the Port of Los Angeles and/or Long Beach. While this assumption may be conservative in light of the fact that fireworks may instead be delivered from Lakeside or Alpine, emissions from material deliveries are small (approximately one pound of PM10 on peak Fourth of July event day) and air quality impacts would remain unchanged if the assumption was changed. Therefore, no changes are necessary to the analysis in the Draft EIR.

Response to Comment G-27

The comment states that the visitor traffic analysis on page 4.2-24 should not apply to fireworks display events other than the Big Bay Boom or San Diego Pops concerts because of the lack of similar advertising.

The analysis of visitor traffic is qualitative and does not quantitatively attribute emissions to both advertised and non-advertised events. Instead, the analysis discusses both the limitations of numerically attributing vehicle traffic to events (as shown in Section 4.2.4.1 of the Draft EIR) and the fact that it is unlikely events contribute emissions that would contribute substantially to an existing or projected air quality standard (as discussed in Section 4.2, *Air Quality and Health Risk*, under Threshold 2 of the Draft EIR). The analysis of visitor traffic has no bearing on air quality or greenhouse gas impacts or analysis thereof. No changes are necessary to the analysis in the Draft EIR.

Response to Comment G-28

The comment states that the health risk assessment on pages 4.2-24 and 4.2-25 does not consider the changes in chemical compounds following ignition, and that raw chemicals are not being discharged into waterways or the atmosphere.

The health risk assessment is based on emission factors that were based on literature review. For example, modeling to determine the concentration of copper at downwind receptors was based on the emission factors presented in the Croteau et al. (2010) study, which estimated emission factors through air sampling in an airtight room after combustion. The analysis is not based on raw materials but instead on the estimated amount of metals and other compounds that are generated after the fireworks are combusted (or ignited). No changes are necessary to the analysis in the Draft EIR.

Response to Comment G-29

Related to Impact-BIO-2, the comment states that private shows should be exempt from most mitigation measures, except for post-show cleanup, because they do not generate foot traffic or public trash and are so small that they make little or no impact. The comment does not provide any evidence in support of these assertions. Impact BIO-2 relates to the proposed new fireworks display events at the Chula Vista and National City Bayfronts. The proposed new events are public, not

private, events and are of sufficient size to warrant the approach utilized in the Draft EIR. No changes in the Final EIR are required or warranted.

Response to Comment G-30

The comment states that requiring five persons per barge for clean-up, regardless of the size of the display, is punitive and not well thought out. This comment asserts that the requirement for five clean-up crew members per barge is too broad as it doesn't recognize the difference in possible events sizes, between Big Bay Boom for example and a Summer Pops show(s).

The requirement for the fireworks organizer to provide five persons per barge for post-display clean-up efforts does take into account the size of the show. The Big Bay Boom is the only fireworks display event that uses more than one barge; all other existing and proposed fireworks displays use one barge (or none). Therefore, except for the Big Bay Boom, the fireworks organizer for all other fireworks display events will be required to provide only five persons for the post-event clean-up effort.

Response to Comment G-31

The comment restates concerns about Section X.07 – Permits – Conditions of Approval as included in MM-BIO-1 about 5 business days being inadequate for reporting (see comment G-11). Please see response to comment G-11. Revisions to MM-BIO-1 have been made to revise 5 to 10 days as requested by the comment. This clarifying language is included in Chapter 3, *Errata and Revisions*, of the Final EIR.

Response to Comment G-32

The comment states that private events should be exempt from MM-BIO-2 because members of the general public are not invited and the events have no impact. The commenter further states that requiring implementation of MM-BIO-2 would harm San Diego's convention and tourist business.

This comment does not provide any evidence in support of its assertions and does not raise any environmental issues or address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project. Please see response to comment G-29.

Response to Comment G-33

Regarding the discussion on page 4.3-47 of debris entering the water, the commenter requests that the biodegradable nature of fireworks debris should be accounted for. Please see responses to comments G-12 and G-19 above.

Response to Comment G-34

The comment states that the conclusion on page 4.3-49 that the proposed ordinance would have no substantial adverse effect on existing fireworks displays is incorrect, and that mitigation compliance would cost tens of thousands of dollars for non-profit organizations like the San Diego Pops.

This comment does not provide any evidence in support of its assertions and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR

are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment G-35

The comment states that the Draft EIR's assertion that "The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events" is incorrect, as the Draft EIR uses numbers from 2015 that were exceeded in 2016. The commenter further states that a higher volume of small private fireworks display events should be allowed. Finally, the commenter states that the proposed ordinance does not allow for new barge shows in the future, which would generate sales tax revenue and have a small footprint.

The list of existing fireworks display events includes those events that occurred in or before 2015 because CEQA normally requires an EIR to establish the environmental setting based on conditions that exist at the time the NOP is published. This comment does not raise any environmental issues or address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment G-36

The comment states that some of the substances discussed in Section 4.5.2.1 of the Draft EIR were once used but are now banned from use, and suggests that modern fireworks manufacturing companies be consulted to determine the chemicals currently in use.

The list of fireworks chemical constituents summarized in the Draft EIR and Water Quality Technical report and were obtained directly from the RWQCB's General Permit, Fact Sheet Table 1 (Page F-9). Therefore, in order to provide an analysis consistent with the General Permit, no revisions to the Final EIR were made in response to this comment.

Response to Comment G-37

The comment notes that wires can be secured in a number of ways and suggests that language in MM-WQ-1 (f)3 be modified to allow different methods to do so, as follows: "Wires from the electric match placed in the fireworks fuse shall be ~~wrapped around nails that are installed on the racks~~ secured in such a way to prevent wires from being pulled out and falling into the water."

This comment does not address the adequacy of the EIR. In response to this comment the District has revised the requirement in the proposed ordinance §7(f) 3. as follows:

3. Wires from the electric match placed in the fireworks fuse shall be secured ~~wrapped around nails that are installed on the racks~~ to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event."

In addition, MM-WQ-1 has been revised as follows:

“(f) 3. Wires from the electric match placed in the fireworks fuse shall be ~~secured wrapped~~ secured wrapped around nails that are installed on the racks to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event.”

Response to Comment G-38

The comment restates concerns about Section X.07 – Permits – Conditions of Approval, as included in MM-BIO-1, requiring a cleanup crew of five persons (see comments G-10, G-17, and G-30). The commenter further clarifies that cleanup crew size should be based on show size rather than barge size. Please see response to comments G-10 and G-30.

Response to Comment G-39

The comment restates concerns about Section X.07 – Permits – Conditions of Approval, as included in MM-BIO-1, about 5 business days being inadequate for reporting (see comments G-11, G-16, and G-31). Please see response to comment G-11. Revisions to MM-BIO-1 have been made to revise five (5) to ten (10) days as requested by the comment.

Response to Comment G-40

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.03, Definitions. The commenter requests clarification on the roles and responsibilities of Fireworks Operators, Fireworks Organizers, and Sponsors, but does not identify any specific provision of the proposed ordinance that requires clarification. Accordingly, no further response is possible or warranted.

Response to Comment G-41

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.03, Definitions. The commenter states that “Alternative Fireworks” as defined do not exist and requests that the section be struck from the proposed ordinance. Please see response to comment G-7. The provisions in the proposed ordinance are intended to ensure the use of the least environmentally impactful type of fireworks available now and in the future.

Response to Comment G-42

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.05, Permits – Application. The commenter requests that the requirement that the application for a permit be filed 60 days prior to the event should be changed to 10 days, in accordance with fire department requirements and state law. The commenter further suggests that permits be issued annual permits rather than permits for individual events to ensure that insurance and other standard requirements can be met prior to issuance of an annual permit.

This comment does not raise any environmental issues or address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment G-43

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (a), Location of Fireworks Display Events. The commenter suggests that provisions should be made for other events that launch fireworks from barges at locations other than those discussed in the proposed ordinance.

This comment does not raise any environmental issues or address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment G-44

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (a)2B. The commenter states that 23 shows per year on or adjacent to the U.S.S. Midway Museum is insufficient and requests expansion to 80 events per year to avoid affecting revenue, because these shows have little or no impact on the port tenants or residents.

This comment does not raise any environmental issues or address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment G-45

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (a)2C. The commenter suggests expanding the number of allowed shows per year for the San Diego Symphony Summer Pops concerts to a minimum of 50 to accommodate the Pops' new permanent venue.

This comment does not raise any environmental issues or address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment G-46

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (d)1, Chemical Composition. The commenter states that fireworks described in this section are not currently commercially available, and requests that either the section be struck or be modified to allow that such fireworks would be used once they are commercially available. Please see response to comment G-7.

Response to Comment G-47

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (d)2, Packaging. The commenter

requests the addition of the phrase “non-required” to specify that only those labels not required by federal or state law shall be removed (see also comments G-8 and G-14).

Please see response to comment G-8. Revisions to MM-BIO-1 have been made to exclude labels mandated by State and Federal laws.

Response to Comment G-48

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (e)3, Security. The commenter requests modification of the text as follows:

Security. For advertised or non-private Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the ~~Fireworks Organizer~~ Sponsor shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays.

The requested changes do not relate to an environmental issue or to the adequacy or completeness of the EIR. In addition, the District does not believe that the requested changes are warranted or necessary. Nonetheless, the comment will be included in the material provided to the Board of Port Commissioners for their consideration of whether or not to adopt the proposed ordinance. No further response is required.

Response to Comment G-49

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (e)4, Signage. The commenter requests modification of the text as follows:

Signage. For advertised or non-private Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the ~~Fireworks Organizer~~ Sponsor, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.

The requested changes do not relate to an environmental issue or to the adequacy or completeness of the EIR. In addition, the District does not believe that the requested changes are warranted or necessary. Nonetheless, the comment will be included in the material provided to the Board of Port Commissioners for their consideration of whether or not to adopt the proposed ordinance. No further response is required.

Response to Comment G-50

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (e)5, Education. The commenter requests modification of the text as follows:

Education. Beginning not less than seven (7) days before advertised or non-private Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the ~~Fireworks Organizer~~ Sponsor shall implement a public education program using social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to reminds viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).

The requested changes do not relate to an environmental issue, adequacy, or completeness of the EIR. In addition, the District does not believe that the requested changes are warranted or necessary. Nonetheless, the comment will be included in the material provided to the Board of Port Commissioners for their consideration of whether or not to adopt the proposed ordinance. No further response is required.

Response to Comment G-51

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f)2. The comment restates concerns regarding a 6-foot debris barrier (see comments G-9 and G-15). The commenter further clarifies that such a barrier could potentially create a maritime hazard. Please see response to comment J-9.

Response to Comment G-52

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f)3. The commenter restates concerns with specifying that wires be secured with a nail (see comment G-37) and suggests the following modification to the text: “Wires from the electric match placed in the fireworks fuse shall ~~be wrapped around nails that are installed on the racks~~ secured in such a way to prevent wires from being pulled out and falling into the water.” Please see response to comment G-37. Revisions to MM-WQ-1 and the proposed ordinance have been included to address this comment.

Response to Comment G-53

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f)9. The commenter restates concerns about Section X.07 – Permits – Conditions of Approval as included in MM-BIO-1 requiring a cleanup crew of five persons (see comments G-10, G-17, G-30, and G-38). The commenter further clarifies that the size of cleanup crew will be delegated by contract to the Sponsor. Please see response to comments G-10 and G-30.

Response to Comment G-54

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f)10. The comment restates concerns about Section X.07 – Permits – Conditions of Approval, as included in MM-BIO-1, about 5 business days being inadequate for reporting (see comments G-11, G-16, G-31, and G-39). The

comment further states that manpower requirements should not be based on the number of barges, but rather the number of fireworks used. The comment further states that the Sponsor, and not the Fireworks Organizer, will be responsible for compliance with this condition by contract. Please see response to comment G-11. Revisions to MM-BIO-1 have been revised to 5 to 10 days as requested by the comment. In addition, please see response to comment G-30 regarding the number of clean-up crew members.

In addition, this comment suggests that the responsibility for implementing this condition of the proposed ordinance be delegated to the sponsor rather than the organizer. This comment does not address the adequacy of the EIR and no response is required. Nonetheless, the District takes this opportunity to clarify that the “fireworks organizer” is identified as responsible for ensuring security. Please see Section X.03 of the proposed ordinance for definitions of the terms *Fireworks Operator*, *Fireworks Organizer*, and *Sponsor*.

Response to Comment G-55

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f)(11). The comment requests changing “Fireworks Operator” to “Sponsor,” as fireworks companies do not handle tasks such as security and crowd control.

Please see response to comment G-18, which acknowledges that this provision of the proposed ordinance will be corrected to substitute the term “Fireworks Organizer” for the term “Fireworks Operator.”

Response to Comment G-56

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (g), Event Transportation and Parking Management Plan. The commenter requests changing “Fireworks Organizer” to “Sponsor” and states that fireworks companies do not undertake parking management.

Please see response to comment G-20. The requested changes do not relate to an environmental issue or to the adequacy or completeness of the EIR. In addition, the District does not believe that the requested changes are warranted or necessary. Nonetheless, the comment will be included in the material provided to the Board of Port Commissioners for their consideration of whether or not to adopt the proposed ordinance. No further response is required.

Response to Comment G-57

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.08, General Provisions, subsection (c), Cost Recovery, and asks what the fee will be. The District has not yet determined the amount of the fee. In the event the proposed ordinance is adopted by the Board of Port Commissioners, the District will establish the amount of any fees that are required pursuant to the Article 2, Cost Recovery, of the District Code.

4.4.8 Comment Letter H: H.P. Purdon

Port of San Diego
Big Bay Boom
An Independence Day Spectacular



May 1, 2017

San Diego Unified Port District
Wileen Manaois
Real Estate Development Department
3165 Pacific Highway
San Diego, CA 92101-1128

RE: DRAFT EIR FOR SAN DIEGO BAY FIREWORKS DISPLAY EVENTS

Dear Mr. Manaois:

This letter is to communicate the concerns we have regarding the Ordinance and Draft EIR as it pertains to the operation of the Port of San Diego Big Bay Boom July 4th Fireworks Show. The Big Bay Boom provides over \$500,000 of TOT funds to our community, has an attendance of over 500,000 and creates over \$10.6 million of economic impact for our region. It is continually ranked in the top 5 July 4th fireworks shows in the nation.

H-1 With that backdrop let me as the "Fireworks Organizer" (executive producer) of the event the concerns I have for the proposed Ordinance and subsequent EIR. I will not be addressing the many concerns the "Fireworks Operators" (Pyro Spectaculars & Pacific Tugboat Service) may have with the ordinance or EIR. They are the appropriate entities to address the actual fireworks displays and Best Management Practices for on the water operations of the event. My job is to provide for the various permitting, environmental responses, fund raising, sponsor contracts and fulfillment and budgeting issue to make the event successful.

Section__ .05 – PERMITS – APPLICATION

H-2 (a) The timing of the proposed date of 60 days in advance of July 4th is impossible to meet. The date for file the permit request would be May 4, 2017, for the July 4, 2017, show. I assume this will be waived for 2017.

H-3 (c) Our NPDES permit with the Water Boards (RWQCB) is done 9 months in advance of the next fireworks show along with the Best Management Practices agreement.

Section__ .07 – PERMITS – CONDITIONS OF APPROVAL

(f) Best Management Practices

H-4

NOTE: We have provided and paid for many years of water monitoring with each year's results being "no damage has been done to the water body" from our fireworks operations. This is an important result and should be noted.

H-5

7. The sweeps of the immediate area around the barges for the Big Bay Boom are conducted by 8 of the approximately 16 patrol barges. Two volunteer patrol boats per barge will conduct the sweep around the location of the barge after it has left the area. Pool skimmers are used to do this exercise.

H-6

8. Returning to the detonation zones and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris has been done in the past only to find after two tide changes very little if any fireworks debris was found. This is an expensive use of time and people with very little resulting debris found.

H-7

9. The morning after the event we have been conducting another sweep of the shoreline. We have used crews of at least 20 people for the 4 barge event. The debris collected has been weighed and photographed. Frankly, this is a very expensive use of time and people as there will have been two tide changes and little if any debris has been found in the past.

H-8

(h) Regarding the Event Transportation and Parking Management Plan (ETPMP), please find on the Big Bay Boom website (www.bigbayboom.com) an extensive outline on how the public can access the event with full transportation and parking options. This should suffice as the annual plan for the Port to review.

H-9

The general sense of the Draft EIR and Ordinance for San Diego Bay fireworks seems to put a lot of unnecessary burden on the Fireworks Operator and the Fireworks Operator. These burdens' will amount to increased costs and time to manage the event. This will undoubtedly require increased sponsor fees for all sponsors including the title sponsor, the Port of San Diego.

Best regards,

H.P. Purdon

H. P. "Sandy" Purdon
Executive Producer, Port of San Diego Big Bay Boom July 4th Fireworks Show

Response to Comment H-1

This comment is an introductory statement and briefly describes the Big Bay Boom event and states concerns with the proposed ordinance and Draft EIR.

The District has reviewed the letter regarding the proposed ordinance and the Draft EIR as it pertains to the operation of the Port of San Diego Big Bay Boom Fourth of July Fireworks Show. This comment does not raise any environmental issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. The specific comments provided later in the comment letter are listed separately along with the District's individual responses below. No changes to the EIR are required.

Response to Comment H-2

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.05, Permits – Application, subsection (a). The comment states that it is not possible to submit the permit application 60 days in advance of the July 4, 2017, show. The comment assumes that this requirement would be waived for 2017.

This comment does not raise any environmental issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the EIR are required. The District considers 60 days prudent to allow the District to review and process the application and is consistent with park permit requirements. In the event the proposed ordinance is adopted by the Board of Port Commissioners and becomes effective before the Fourth of July show for this year (2017), the District will determine what provisions of the proposed ordinance are possible to be implemented in light of the time constraints identified in the comment.

Response to Comment H-3

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.05, Permits – Application, subsection (c). The comment states that his National Pollutant Discharge Elimination System permit is done 9 months in advance of the next fireworks show along with the Best Management Practices agreement.

As required by this condition of the proposed ordinance, the National Pollutant Discharge Elimination System and the Best Management Practices agreement shall be submitted to the District along with the application. This comment does not raise any environmental issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required.

Response to Comment H-4

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f). The comment notes that it has performed many years of water monitoring that have shown no damage done to the water body as a result of fireworks operations.

As identified in the Water Quality Technical Report (Appendix G) and Section 4.6, *Hydrology and Water Quality*, of the Draft EIR, the District has considered the water monitoring results conducted for the Big Bay Boom fireworks display event. This comment does not raise any environmental

issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the EIR are required

Response to Comment H-5

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f)7. The comment states that sweeps of the immediate area around the barges for the Big Bay Boom are conducted by eight patrol barges, and that two volunteer patrol boats per barge conduct the sweeps using pool skimmers.

The comment describes aspects of the clean-up program for the immediate area around the barges for the Big Bay Boom Fireworks Display Event. This comment does not raise any environmental issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the Final EIR are required.

Response to Comment H-6

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f)8. The comment states that returning to detonation zones and quays, piers, and docks adjacent to the fireworks detonation zones has recovered very little if any fireworks debris in the past. The comment states that this is an expensive use of time with little result.

The District has reviewed the information from the Big Bay Boom Fireworks Display Event regarding the clean-up efforts that currently take place in the detonation zone and quays, piers and docks adjacent to the fireworks detonation zone. Notwithstanding the comment's concern that this clean-up activity does not recover a substantial amount of fireworks trash or debris, this activity is an important part of the comprehensive clean-up program required by the District in the Best Management Practices for fireworks display events. This comment does not raise any environmental issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment H-7

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (f)9. The comment states that they have conducted sweeps of the shoreline the morning after the event and recovered very little debris in the past. The comment also states that this is an expensive use of time with little result.

The District has reviewed the information from the Big Bay Boom Event regarding the cleanup of the shoreline the morning after the event. Notwithstanding the comment's concern that this clean-up activity does not recover a substantial amount of fireworks trash or debris, this activity is an important part of the comprehensive clean-up program required by the District in the Best Management Practices for fireworks display events. This comment does not raise any environmental issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

Response to Comment H-8

This comment refers to the text of the proposed ordinance as presented in Appendix D of the Draft EIR, Section X.07, Permits – Conditions of Approval, subsection (h). The comment requests that the District review the Big Bay Boom parking and transportation information available on its website at www.bigbayboom.com and suggests that this existing information should suffice as an Event Transportation and Parking Management Plan.

The District has reviewed the information regarding the Big Bay Boom Event Transportation and Parking Management Plan for informational purposes, but does not consider the information to be a substitute for the Event Transportation and Parking Management Plan required by the proposed ordinance. This comment does not raise any environmental issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the EIR are required.

Response to Comment H-9

The commenter states that the proposed ordinance and Draft EIR places an unnecessary burden upon the Fireworks Operator and Fireworks Organizer and states that implementation of the proposed ordinance would amount to increased costs and time to manage the event, resulting in increased sponsor fees for all sponsors, including the Port of San Diego.

This comment does not raise any environmental issues and does not address the adequacy of the EIR requiring a response pursuant to CEQA. Therefore, no changes to the EIR are required. However, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

4.4.9 Comment Letter I: Pacific Tugboat Service



Pacific Tugboat Service

San Diego (619) 533-7932
Long Beach (562) 590-8188

P.O. Box 12787, San Diego, CA 92112-3788
 1444 Cesar E. Chavez Pkwy. San Diego, Ca 92113
 1512 West Pier C Street, Long Beach, CA 90813

May 1, 2017

San Diego Unified Port District
 Wileen Manaois
 Real Estate Development Department
 3165 Pacific Highway
 San Diego, CA 92101-1128

RE: DRAFT EIR FOR SAN DIEGO BAY FIREWORKS DISPLAY EVENTS

Dear Mr. Manaois:

I-1 [This letter is to communicate the concerns we have regarding the proposed Ordinance and Draft EIR as it pertains to the operation of the Port of San Diego Big Bay Boom July 4th Fireworks Show. Historically, we have been subcontracted to provide barge services for launching the fireworks at various venues in and around San Diego and Los Angeles Counties.

I-2 [Although most of the language in the proposed Ordinance and draft EIR does not or should not apply to us (as a sub-contractor), the six-foot perimeter fence we see as problematic for the following reasons:

1. Safety
 - An all-around perimeter fence that is six feet off the deck of our barge would hinder if not prevent easy emergency egress from the barge in case of fire, injury or any number of unforeseen circumstances.
 - It may also hinder if not prevent first responders from gaining access to the barge.
 - A six-foot-high fence would block the vision of the tug captain on the busiest vessel traffic night of the year.
2. Costs Logistics
 - The fence will take time to install and uninstall for each event, which will take place pier-side and cannot be done while other work is going on.
 - Storage space for fence materials between events is non-existent and would have to be acquired
 - Cost to build the structure for each event is grossly out of budget and will add significant cost to each event.
 - Additional lookouts would be required for properly managing and maneuvering the barge.

I-3 [May we suggest, as a solution to these problem areas, either a lower barrier fence of say three feet or a "curtain" that can easily be raised and lowered as needed to contain debris (although this would likely increase the costs slightly).

Regards,

Skip Labiti

Risk Management
 (619) 533-7932
skip@pacifictugboats.com

Response to Comment I-1

The commenter states that it has concerns to communicate and that it has historically been subcontracted to provide barge services for various fireworks display events in San Diego and Los Angeles counties.

The District appreciates Pacific Tugboats interest in the proposed project. This is an introductory comment that does not raise any environmental issues requiring a response pursuant to CEQA. The specific comments that follow this introduction are listed separately along with the District's individual responses.

Response to Comment I-2

The commenter expresses concerns about the 6-foot perimeter fence, stating that an all-around perimeter fence that is 6 feet off the deck of its barge would hinder emergency access in case of fire or other emergency, and may hinder first responders from gaining access to the barge. The comment further states that the fence would block the vision of the tug captain during the busiest traffic vessel night of the year.

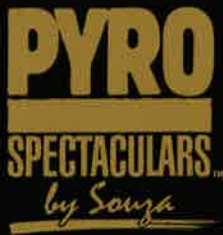
The comment also expresses concern relating to the cost of the fence, stating that installation and teardown of the fence will take time and could not be performed during other work, and that the cost to build the structure would add significant cost. The comment further states that storage space for fence materials do not currently exist and would have to be acquired. The comment also states that additional lookouts would be required for managing and maneuvering the barge. Please see response to comment J-9 below.

Response to Comment I-3

The commenter suggests lowering the height of the fence to 3 feet or replacing it with a curtain that could be raised or lowered to contain debris.

The requirement for a 6-foot-tall fireworks debris barrier is intended to prevent fireworks trash and debris from falling into the Bay and thereby to reduce potential adverse environmental impacts associated with trash and debris in the Bay. While a 3-foot barrier would be better than no barrier at all, the proposed height of the fireworks debris barrier is intended to contain the greatest amount of trash and debris possible. Although no changes to the EIR or the proposed ordinance will be made, this comment will be included in the materials presented to the Board of Port Commissioners for consideration in the decision whether or not to approve the proposed project.

4.4.10 Comment Letter J: Pyro Spectaculars, Inc.



May 2, 2017

Ms. Wileen Manaois
Principal, Development Services
Real Estate Development Department
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101-1128

Via: Email only to: wmanaois@portofsandiego.org

RE: San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
UPD #EIR-2015-115; SCH #2015081013

Dear Ms. Manaois:

J-1

Pyro Spectaculars, Inc., ("Pyro") submits the following comments to the Draft EIR and the Proposed Fireworks Display Ordinance included as an Exhibit to the Draft EIR in the above referenced Project.

As a brief introduction, Pyro has been performing displays in the San Diego area for decades, and we are familiar with the sites and circumstances of most of the displays in the region over the past decades. We currently perform the Big Bay Boom display.¹ We actively participate in governmental activities related to fireworks and fireworks safety around California, in other states, and at national and international levels. We hold regular seminars and workshops on fireworks operations and safety for licensed operators, helpers, and fire authorities alike and have been instrumental in the development of multiple such training programs in California and the United States. We participate in several fireworks codes and standards groups including the National Fire Protection Association Technical Committee on Pyrotechnics; California State Fire Marshal's Fireworks and Special Effects Advisory Committees; and the American Pyrotechnics Association's Board of Directors as well as its Executive, Display, Proximate Pyrotechnics, Transportation, and Code Committees.

We respect the interests of the Port in regulating special events that involve public fireworks displays and understand the pressures that can be placed on any government agency by citizens and extreme activist groups and lawyers. Still, we must not lose sight of certain fundamental responsibilities each of us bears and the rights we enjoy. Among the responsibilities is to ensure the health, safety, and welfare of persons, property, and the environment; to not discriminate among persons on other than rational grounds;

¹ Pyro is not the company that set off all the fireworks at once.

J-1
cont. | and to not excessively, unnecessarily, or unfairly infringe upon their rights. Which brings us to our general comments of the Draft EIR and Ordinance.

General Comments

J-2 | The Proposed Fireworks Display Ordinance is overly broad. The fireworks subject matter is neither within the Port’s jurisdiction nor advisable for it to regulate in light of its lack of familiarity with fireworks law, regulation, standards, and operations. Fire authorities regulate fireworks in the cities within the Port District, the cities within the Port District regulate special events in their jurisdiction, and the Regional Water Quality Control Board regulates the Clean Water Act. See e.g., EIR Section 4.5.4.3.

J-3 | This Proposed Ordinance attempts to supersede and conflicts with the jurisdiction of those fire authorities, cities, and the Water Board. The Proposed ordinance is overreaching in these respects. By way of example, the Ordinance requires that the Water Board General Permit be obtained before the Port grants a permit. The water board permit requires certain best management practices, but the Ordinance goes on to require a substantially duplicate set of practices, and adding some requirements that create unsafe conditions. The Ordinance requires that a municipal fire authority “supervise” the display and determine things like “safe cool down periods.”² This duplication is unnecessary, and the additions are poorly advised. A simple requirement that the hosts of public events comply with existing law is the wisest approach since the cities, the Water Board, and the fire authorities already have regulations and processes in place. If the cities wish to delegate special event permitting to the Port, that would be their decision. Delegating fireworks and Clean Water Act permitting is not the same, because the Port does not have jurisdiction under state law to make laws regulating fireworks and the Water Board has jurisdiction over discharges to the waters of the Bay. Only cities, counties, and special districts that provide fire-related services may permit and thereby regulate fireworks operations under the California Fireworks Law.

J-4 | The Proposed Ordinance sets up yet another layer of regulation that duplicates and confuses long-existing patterns of regulation and permitting. Recent examples of the confusion among cities in the Port is that the Coronado Fire Marshal recently refused to consider an application for a fireworks display permit for unclear reasons, but mentioned the activity by the Port related to fireworks displays.

² NFPA 1123-14, Section 9.5.2 provides that personnel shall not enter the for a period of time the operator deems necessary for safety.

J-5

Another example of confusion is closer to the Port home. Recently, Pyro contracted with a customer that proposed a private fireworks display in the waters adjacent to Manchester Grand Hyatt. Port officials told Pyro a special events permit was required from the Port. The application for such permit is handled by the Real Estate Department, requires sixty days advance filing, and by the terms of the application may only be made by a tenant of the Port or a person authorized by the tenant to have all decision making authority for the tenant. The display was to take place sooner than sixty days as most private displays are scheduled and contracted less than sixty days in the future. Pyro filed an application with the Port, although the application Pyro was given was clearly intended for construction projects. The maps of the Port jurisdiction were consulted, and the display barge location itself was outside the mapped Jurisdiction of the Port although the people viewing the display, private guests of the hotel, were within Port leased land. There were no public advertising, no bleachers or other provisions for the public, no parking was planned or needed for the public. After several days, Pyro was informed that the display, being in the water, was not in the Port's jurisdiction. The Port told Pyro it would have to apply for a City of San Diego fireworks permit and obtain a California Coastal Development Permit or waiver/exclusion from the Coastal Commission.

As a result of the delays by the Port, Pyro was unable to meet the deadlines of the customer who made alternative plans. There is no need for the Proposed Ordinance and the permitting scheme it proposes. There is already a permitting process. If the Port demands a special event permit in addition or alternative to the permits currently available, the fireworks permits for the display should still be obtained from the responsible fire authority only. If the display is in the water, the Water Board already requires a permit and has a set of Best Management Practices in place for discharges from the fireworks. The Port only needs to require that those permits be obtained and consider the Coastal Development requirements in order to issue the special events permit. Small private events, like at the Manchester Grand Hyatt, that are not advertised to the public and for which no public accommodations are necessary, should not even require a special events permit from the Port. The EIR clearly establishes that there are no significant impacts from such small displays.

J-6

Although the Draft EIR language seems addressed to "Fireworks Display Events," the Proposed Ordinance is entitled "Fireworks Display Ordinance." There is a substantial difference between regulating the special event that includes a fireworks display and regulating the display itself. The Port may be qualified to regulate special events in its jurisdiction, notwithstanding the jurisdiction of Port cities to regulate special events. It is

J-6
cont. | not qualified or empowered to enforce or vary the laws, regulations, codes, and standards governing the operation of fireworks displays.

| In California, the State Fire Marshal is the agency authorized to develop and enforce the State Fireworks Law, Health and Safety Code, Sections 12500-12759. Cities, counties, and Special Districts that provide fire protection, prevention, or suppression services may adopt an ordinance or regulation to prohibit or regulate the sale, use, or discharge of fireworks within that special district as provided in Health and Safety Code Section 12541.1(a). The Port District is not so authorized because it does not provide fire-related services.

J-7 | The State Fire Marshal has developed a comprehensive set of regulations pertaining to fireworks and fireworks displays set out in Title 19, California Code of Regulations, Chapter 6. These regulations have been in place for many years. There is no provision for a Special Port District that does not provide fire related services to adopt such an ordinance as is proposed in the draft EIR. Even if there were such authority, regulation of fireworks operations is best left to those who are qualified to do so. Clearly, that is the rationale for limiting the entities that can regulate fireworks. These state fireworks regulations have been developed with years of experience and the cooperation and input of many experts in the field from both the industry and enforcement sides. It is wrong and contrary to California state law for the Port to try to assume jurisdiction over fireworks displays.

J-8 | Pyro has been training fire authorities in the safe permitting and inspection of fireworks displays for decades. We know that among the possible enforcement authorities, fire authorities, with the proper training and experience, are in the best position to understand safe pyrotechnic practices. Several of the provisions in the ordinance demonstrate our concerns with regulation of fireworks practices by non-subject-matter experts:

J-9 | 1) __.07,(f) - Best Management Practices. Placing a fence of any height around the discharge area on land, let alone on a barge, creates several risks to the fireworks operator, crew, emergency responders, and the vessel itself. The fence inhibits the crew from seeing the fireworks equipment in case of an emergency. The fence creates barriers to crew being able to escape from the barge in case of emergency. The fence inhibits emergency response personnel and equipment from accessing and boarding the vessel. The fence may cause burning objects to be bounced back onto the vessel, into the discharge area, into the crew possibly causing premature ignition of the

J-9
cont

fireworks and possible injury to the crew. If a fence were damaged, it could fall onto the fireworks equipment and impair other fireworks from being launched properly. NFPA 1123-14, Section 6.3.2.1 provides that for fireworks displays fired from floating platforms (barges), "A minimum of two separate egress paths shall be provided at all times." 6.3.2.3 provides, "Egress paths shall be clear and free of impediments." The very idea that a fence should be put around the fireworks discharge area on a barge demonstrates either a lack of understanding of even basic fireworks safety or a fundamental disregard for the safety of the personnel on the barge and those who may have to access the barge in an emergency. While allowing the fire marshal to prohibit such a fence would appeal to non-experts, it is the fireworks operator in charge of the display who is responsible for crew safety under state law and regulation. As the fireworks licensee, Pyro would not permit its operators to place barriers around the discharge site, and that refusal would violate this ordinance such that Pyro and the Operator would be liable. By trying to shift responsibility for safety to the fire marshal, the Port is attempting to make the fire marshal responsible and liable for the safety of the crew on a matter that is clearly contrary to existing fireworks codes and standards.

J-10

2) __.07,(f) - Best Management Practices. Requiring a wire to be wrapped around a nail seems like a simple enough requirement, but not all fireworks equipment has extra nails sticking out; most doesn't. In fact, protruding nails would be a great safety hazard on several levels, especially in the dark when the ordinance requires the crew to strike the display. The Port is not qualified to regulate fireworks, and has no legal basis for regulating the operation of the display. Even if such regulation by the Port were appropriate, it is far better to set a standard of performance that allows flexibility in the means of achieving the standard. Requiring that wires be secured is far superior to dictating how they must be secured, allowing for development of superior, safer methods.

J-11

3) __.07,(f) - Best Management Practices. __.07,(d),2,A. Requiring packaging, wrapping and labels to be removed and disposed of prior to commencement of the display again shows a lack of understanding of the fireworks law and good practices. In the event that some or all of the fireworks are not fired for some reason, the packaging and wrapping will be required to repack and identify the shells. Fireworks must be labeled under both state and federal law.

- J-12 4) Requiring boxes to be approved by California Department of Transportation creates an impossible requirement. US DOT regulates the boxes in which fireworks are transported. The state does not approve fireworks boxes.
- J-13 5) Requiring 50% of the weight (NEW?) of the fireworks to be picked up after the display, in the dark, from the water in the Bay or the Pacific Ocean is unreasonable and not supported by any substantial evidence in the draft EIR. Much of the materials that is related to the shells is burned or disintegrates in the performance of the devices. It is unreasonable to expect anyone to recover that much especially in tidal zones. It is also unreasonable to expect non-residents of the Port, or anyone for that matter, who may sponsor displays in the Port to attend the annual clean-up.
- J-14 6) __.07,(d),2,B. This section prohibits fireworks that have a plastic casing or are made up of more than 5% by mass of non-biodegradable inner components. What if the device is not shot into the air but remains on the ground? Why would that need to be made of biodegradable material? How is anyone to know what is inside an aerial shell or other device? Neither the display operator, the host, or the enforcing authority can make that determination without destroying the shell. Such information is not available from manufacturers or distributors of fireworks. Scientists, consultants, who know little to nothing about fireworks have fixated on absolute numerical specification without considering the practical and operational implications of their machinations.
- J-15 7) Throughout the ordinance, in designating the weights of the fireworks that can be used, the ordinance fails to state for the correct standard for fireworks weight. The mass of fireworks is correctly designated in Pounds Net Explosive Weight, or lbs. NEW. If this term is not used, then the full weight of the devices out of the packaging is implied. For example, under the Ordinance, section __.07(c)1,A, Big Bay Boom is limited to “a cumulative 5,342 pounds of fireworks.” Because the weight is not designated as NEW, the Ordinance would require approximately a 50% reduction of fireworks in the display. I doubt that this was the intention, but it is the result when regulators who know little about fireworks and explosives try to write laws that regulate fireworks.
- J-16 8) Section __.07,(d),1,A. The Big Bay Boom Event fireworks can “contain no more than 0.32% copper (Cu) per pound of explosive material.” Of course, “percent per pound” is a very unusual measurement. It is not clear how that might be applied here. We understand percentages, and we understand mass per pound, but percent per pound is vague at best. Perhaps the intention is to say that the net explosive material in all shells combined shall be no more

J-16
cont

that .32% copper. That seems to be what the alternative standard in the section is trying to say, no more than 17 lbs. of total copper emissions in the display. But then, we must wonder whether that weight (17 lbs.) was calculated using NEW (net explosive weight) or something else. It appears they were on the right track: 5342 lbs. NEW of fireworks x 0.0032 [.32%] = 17.09 lbs. So, these consultants understood the difference between the weight of the shell and the weight of its composition, and they still failed to set out the correct weight measure, NEW, throughout the Ordinance.

J-17

9) Clearly, the EIR relies heavily on the “study” written by Croteau, et al, in 2010, for its emission factors of various chemicals, particularly copper. See EIR, Section 4.2, page 4.2-22 *Fireworks Emission Sources and Source Strength Calculation, Direct Sources*. Croteau, an industrial hygienist, was studying emissions from small consumer fireworks used on stage in a uniquely bizarre clown show³. We should be clear on this point. The fireworks that were studied by Croteau are not like the fireworks used in public displays including displays in San Diego Bay. Quoting from the draft EIR, “The aerial shells from the largest existing fireworks display event, Big Bay Boom, are most similar in characteristics to the Roman Candle “B” projectile as measured following combustion testing performed in a burn room for this scientific journal article.” EIR, Section 4.2, page 4.2-22 *Fireworks Emission Sources and Source Strength Calculation, Direct Sources*. While it is always tempting to defer to scientific expertise and not read closely their reasoning, this single statement read by anyone with any knowledge of professional fireworks casts doubt on the quality of the Draft EIR as a whole and on the wisdom of relying on this massive 600 page⁴ report to regulate fireworks. We grant that understanding the differences between consumer and professional fireworks generally and between Roman candle projectiles and aerial shells specifically, may not be common knowledge. But, basing a fireworks law on a study that does not recognize those difference is not reasonable.

a) The projectile from the consumer Roman candle is a solid pellet of pyrotechnic composition about ½” or less in diameter. A professional

³ Cirque de Flambé is a group that performs live at ground level before a live audience with small fireworks in their hands and attached to props. There is nothing about this group that is like Big Bay Boom or any other fireworks display in the Bay. Here are examples of their performance – [Part 1](#). [Part 2](#). In Part 2, at about 00:35, notice the sparks falling right in front of the camera in the audience.

⁴ The supporting material is an additional 900 pages long.

- J-17 | aerial shell ranges from 2" to 10" in diameter. Even if projectile and shell
cont | were the same dimensions, they are not the same chemical makeup.
- J-18 | b) The difficulty for the drafters of the EIR is that without the fireworks in
| the study and the fireworks in the displays being comparable (they are
| not comparable), there is no basis for the regulation of copper to which
| the Port seems to be especially sensitive.
- J-19 | c) A projectile from any particular consumer Roman candle is not at all like
| any kind of aerial shell in any relevant characteristic. They could both be
| spheroidal, and they may both have some type of pyrotechnic
| composition, but the similarities fall off sharply there.
- J-20 | d) The other difficulty in mandating the percentage of a particular chemical
| like copper in the display is that it is not currently practicable to
| determine the percentages of each chemical in the thousands of varieties
| of shells available from a hundreds of foreign and domestic
| manufacturers in various countries. Manufacturers are loath to release
| precise formulations, making it almost impossible for the licensee, the
| operator, or the enforcers to determine what combination of fireworks
| would comply with this unusual standard.
- J-21 | e) In addition to Croteau, the Draft EIR cites other studies conducted in
| China and Europe as the basis for its model and results. But the details of
| the fireworks used in those studies are not revealed. In the United States,
| the U.S. Department of Transportation ("USDOT") restricts the chemicals
| that can be used in fireworks for transportation safety reasons. Consumer
| fireworks are further restricted by the U.S. Consumer Product Safety
| Commission ("CPSC"). There is no discussion in the Draft EIR of how
| regulation of fireworks formulations varies in these countries from the
| U.S. formulation restrictions or what adjustments should be made to
| account for these differences.
- J-22 | 10) Requiring that some type of environmentally friendly fireworks be used when
| those fireworks are clearly not yet practical or proven to be safe is putting
| the horse before the cart. It should not be required that we constantly prove
| a negative to get a fireworks permit. After more than a year of investigation
| and 600 pages of report, it should be easy to determine that such fireworks
| are only minimally available and only at many times the cost of conventional
| fireworks. The EIR does not establish that such fireworks would significantly
| change the environmental impact of the displays. The General Permit from
| the water board already has a more reasonable version of this requirement.

J-23 | 11) __.07, (f), 11 - Perhaps inadvertently, the Ordinance requires the Fireworks Operator to provide double the number of trash receptacles. We think this is likely intended for the Fireworks Organizer.

Fireworks Display Locations and Quantities

J-24 | We refer to the Proposed Ordinance, Sections __.07,(a) et seq. One of the most troubling aspects of the proposed ordinance is that it limits the locations where displays can take place and quantities without any substantial justification for that narrow restriction in the EIR. There does not appear to be any reason why the findings of the EIR, if correct, would not apply with like force to other displays that might be held in the Port jurisdiction at other times and places. There does not appear to be any reason to draw an arbitrary line around certain areas in the Bay that can have fireworks when the findings of the EIR are not location specific and would seem to apply throughout the Bay, perhaps beyond. There is no substantiation for limiting particular displays to particular quantities, and there is no provision for other displays not mentioned in the Ordinance or what quantities are appropriate for those displays.

J-25 | The EIR purports to scope particular recurring displays as well as particular hoped-for displays that may occur in the future as the Project. The Ordinance is not so limited in its effect. The Ordinance permits specific events with specific quantities of fireworks, at specific locations, and in limiting events to those locations, quantities, and times the Ordinance has effectively banned future displays at other locations, even locations that have historically been used for displays. One example is the Manchester Grand Hyatt where convention guests have frequently contracted for fireworks displays. The Manchester Grand Hyatt currently has two convention groups that intend to have fireworks display at the hotel, and the Ordinance as drafted would not allow those shows to take place. One of the groups is the American Pyrotechnic Association that is coming to the Port of San Diego largely because of the wonderful venue right at the hotel for fireworks displays. The Ordinance, however, permits displays at the venue just north in the bay, the Midway. What reason is there to prefer one location to the exclusion of the other or to exclude any other display that is not located within or proximate to an environmentally sensitive area.

J-26 | There is no map or chart attached to either the EIR or the Ordinance to assist in locating the precise jurisdiction of the Port compared to locations where barge based fireworks are launched, and no discussion of the effect of a barge being outside the Port's jurisdiction when the related event is in Port jurisdiction. It should be easy for the Port

J-26
cont | to designate eel grass areas where barge control should be implemented. (see Ordinance, section __.07,(g).

Distinction between Independence Day and Other Events

J-27 | It is not clear to Pyro what possible health, safety, welfare, or environmental consideration exists for distinguishing between events that celebrate patriotism around the Independence Day holiday and events occurring the rest of the year. We applaud the celebration of Independence Day, but we also applaud other free expression. We reject the suppression or restriction of other displays based on the time of year⁵ or the expression of content other than patriotic content in those displays.

J-28 | We ask, why is it acceptable to have a display somewhere in Imperial Beach on July 4 that has 456 lbs. (NEW?) of fireworks but U.S.S. Midway is limited to 235 lbs. on other than July 4? Why can a display on July 4 be 20 minutes long while a display on July 5 ten minutes long? Additionally, what reason is there to limit Independence Day displays to July 4? For example, this year July 4 is on Tuesday. People have to work on Wednesday. It is common for sponsors to have displays on Saturday or Sunday in such years to attract the most attendees, allow the most people to enjoy the display, bring customers to their businesses, book hotel rooms, and thereby have more volunteers available to work late or to work the next day, as with next day debris patrols required by the Water Board's General Permit, and redundantly by the Proposed Ordinance. There is no substantial evidence in the Draft EIR to support this discrimination and suppression of expression based on content or under the guise of environmental protection.

Protection of Species and Habitat - Section __.07,(e), et seq, and __.03 Definitions

J-29 | Pyro respects the effort being made to protect sensitive species and habitat. Pyro supports regulations that reasonably and lawfully give effect to those purposes. However, the Proposed Ordinance has blurred the distinction between an event and a display by defining a Fireworks Display Event too broadly in some respects and too

J-27
cont. | ⁵ Pyro recognizes that there is an interest in protecting avian species during their breeding periods. However, the draft EIR does not demonstrate that there would be a significant impact on birds from fireworks displays. Management of the public in sensitive areas would seem to be an ongoing requirement not limited to fireworks events and the burden of managing access to those areas should not be dumped on fireworks organizers. Perhaps there are environmental groups that could spend some of the resources protecting such areas.

J-29
cont | narrowly in others. This makes the ordinance confusing and subject to a variety of interpretations and misinterpretations.

J-30 | The plain meaning of the words in the Proposed Ordinance should be clear. A fireworks *display* involves the handling, possession, loading, staging, launching, and sometimes storage of fireworks.⁶ The fireworks *event* takes place where the audience and participants are located, park, and travel. This would be either the private or public group viewing the display.

J-30 | The definition of fireworks display event further confuses the meaning of *event* by declaring that any group exceeding twenty-five is the equivalent of viewing by the public. This makes no sense when it is applied to certain locations, like the Midway and hotels that have a large private group of viewers, but have none of the issues related to public parking, trash, encroachment on habitat, and similar public interests. Similarly, while the Midway and hotels are open to the public, the fireworks are not advertised to the public and the event itself is not open to the public. The concerns with public traffic in sensitive areas is just not present in such cases.

J-31 | We appreciate what appears to be a great effort on the part of Port personnel to address concerns raised by the environmental activist. But neither the activist nor the Port have lived in the existing regulatory, permitting, and enforcement world of fireworks the way we have. It is disappointing that the EIR team did not include fireworks professionals on a deep basis. The reason for that is not clear, unless we consider that those who make threats of lawsuits try to control the process as well as the result.

J-31 | The novelty of the approach to fireworks taken in this project, and particularly in the draft ordinance, is difficult to fully express. Throughout this state and the other states of this nation fireworks displays have been taking place in all kinds of locations for decades. Few have had any significant environmental effects. Those that have are covered by existing law and regulation. CEQA and the Coastal Development acts were made with projects in mind more impactful and significant than a few minute fireworks display. Most of those projects or developments last 24/7/365 for an indefinite time into the future. They warrant a close look. A display lasts about 20 minutes. That 20-minute

J-30
cont | ⁶ Displays do not routinely include the “detonating of fireworks.” Detonations in the fireworks vernacular mean malfunctions where the device “detonates” without rising into the air from its launching position. Fireworks are launched or ignited, not detonated, during the course of a display.

J-31
cont.

display would need to last 26,280 times longer to reach a single year of impact. We are all too quick to look at results from an EIR or an imagined impact without considering the infinitesimal action of a such a short display compared to protracted activities in our society. We are too quick to regulate or respond to complaints without recognizing that the fireworks displays are a form of expression that shouldn't be put aside by allowing some types of content, audience, location, weight, or length and banning or limiting others.

J-32

We request that the District Board seriously consider what it is doing to the existing regulatory scheme, the effects that this ordinance would have on all concerned including its own tenants and cities, and take great care to not encroach upon the regulatory authorities and jurisdiction that have been carefully in place for a very long time. No hypercritical interpretation of laws that were never intended to reach these types of events should be permitted to cause such a distortion of the existing regulatory schemes as this project would.

Respectfully submitted,
Pyro Spectaculars, Inc.

By: *Lauris Collins on behalf of*
Gary Brown, General Counsel
Licensed Pyrotechnic Operator

Response to Comment J-1

The District appreciates Pyro Spectaculars interest in the proposed project. This comment does not raise any environmental issues requiring a response pursuant to CEQA. The specific comments raised in the pages that follow this introduction are listed separately along with the District's individual responses.

Response to Comment J-2

This comment states the author's opinion that the proposed ordinance is overly broad and fireworks are not a subject within the District's regulatory jurisdiction. Because the comment makes only a general assertion and does not identify any specific aspect of the proposed ordinance that is overly broad, no further response to this portion of the comment is possible or necessary. The District has jurisdiction over land use and other activities that occur within the land and water areas conveyed to it pursuant to the San Diego Unified Port District Act, California Harbors & Navigation Code, Appendix 1. As discussed below in response to comment J-7, the District also has jurisdiction to adopt the proposed ordinance pursuant to California Health & Safety Code section 12541.1.

Response to Comment J-3

This comment repeats the author's opinion that the District does not have jurisdiction to regulate fireworks and asserts the proposed ordinance attempts to supersede and conflicts with the jurisdiction of other fire authorities, cities and the RWQCB. Please see responses to comments J-2 and J-7 regarding the District's jurisdiction to adopt the proposed ordinance. The proposed ordinance does not supersede or conflict with the regulations of other regulatory agencies. Instead, the proposed ordinance expressly defers to other regulatory agencies where appropriate, such as the provisions of the ordinance that address compliance with the RWQCB general permit, compliance with other required permits, compliance with applicable federal, state and municipal laws and regulations (Draft EIR, Appendix D, Proposed Fireworks Display Ordinance, Section X.07(i), (j), (k)) and preemption by applicable federal and state laws (Draft EIR, Appendix D, Section X.08(a)).

The comment further states the author's opinion regarding the wisdom of provisions of the proposed ordinance that the author believes duplicate other laws or permits and recommends the District simply require the hosts of public events to comply with existing law. This comment raises a policy issue, not an environmental concern or a question regarding the adequacy or completeness of the Draft EIR. Accordingly, the comment will be available for consideration by the Board of Port Commissioners when it makes its decision whether or not to adopt the proposed ordinance and no further response is required.

Response to Comment J-4

This comment repeats the author's opinion that the proposed ordinance contains provisions that duplicate other regulations. Please see response to comment J-3 above.

Response to Comment J-5

This comments describes an "example of confusion" concerning applicable regulations involving an application for a special events permit for a private fireworks display in the waters adjacent to the Manchester Grand Hyatt. The comment also repeats the author's opinion that the District should

leave the regulation of fireworks to other regulatory agencies and states small private fireworks display events should not be required to obtain even a special events permit. This comment raises a policy issue, not an environmental concern or a question regarding the adequacy or completeness of the Draft EIR. Accordingly, the comment will be available for consideration by the Board of Port Commissioners when it makes its decision whether or not to adopt the proposed ordinance and no further response is required. Please also see response to comment J-3 above.

Response to Comment J-6

This comment refers to language in the Draft EIR that refers to “Fireworks Display Events” and the proposed ordinance that is titled “Fireworks Display Ordinance” and states the District may be qualified to regulate special events, but is not qualified or empowered to regulate fireworks displays. Please see responses to comments J-3 and J-7. This comment raises a policy issue, not an environmental concern or a question regarding the adequacy or completeness of the Draft EIR. Accordingly, the comment will be available for consideration by the Board of Port Commissioners when it makes its decision whether or not to adopt the proposed ordinance and no further response is required.

Response to Comment J-7

This comment states the author’s opinion that the District is not authorized to adopt a fireworks ordinance or regulation because it does not provide fire-related services as required by California Health and Safety Code section 12541.1(a). The comment is incorrect. Health and Safety Code section 12541.1(a) provides as follows: “A special district which provides fire protection, prevention, or suppression services may adopt an ordinance or regulation to prohibit or regulate the sale, use, or discharge of fireworks within that special district.” The District is authorized by section 12541.1(a) to adopt the proposed ordinance because it is a special district that provides fire protection, prevention and suppression services within its jurisdiction through HPD. As discussed in the Draft EIR, HPD provides marine firefighting services in and around San Diego Bay. HPD has 130 sworn officers who are cross-trained as both land and marine firefighters and police officers. HPD patrol boats respond to fire emergencies on San Diego Bay and are equipped with fire-suppression equipment capable of handling both small and large vessel fires (Draft EIR, Section 4.9.2.1, pp. 4.9-2–4.9-3). Because the comment raises a legal issue, not an environmental issue relating to the Draft EIR, no further response is required.

Response to Comment J-8

This comment states that the commenter has been training fire authorities in safe permitting and inspection of fireworks for decades and serves as a general introduction to the specific comments that follow as comments J-9 through J-23. Please see responses to comments J-9 through J-23 below.

Response to Comment J-9

This comment states that the commenter objects to the Best Management Practice required by Section X.07(f)(2) of the proposed ordinance, which requires each fireworks barge to be equipped with a fire-resistant debris barrier around the perimeter of the fireworks launch area to contain debris, and that such a barrier would present a safety hazard to the fireworks operator, crew, emergency responders and the barge itself and conflicts with applicable regulations. Section X.07(f)(2) of the proposed ordinance included this requirement as part of the “Best Management

Practices” to be implemented for all display events in order to contain fireworks debris on the barge and to prevent the debris from falling into surrounding waters and adversely affecting environmental resources. The proposed ordinance acknowledges the concern expressed in this comment by providing that the debris barrier must be implemented “unless prohibited by the municipal fire marshal with jurisdiction over the Fireworks Display Event.” Because the number and type of fireworks and their launching equipment, as well as the size and layout of the barge, may vary from event to event, the proposed ordinance is a reasonable accommodation of the need to provide a safe working environment on the barge and the need to reduce potential significant adverse environmental impacts by ensuring that as much fireworks debris as possible is contained on the barge and does not fall into surrounding waters.

Response to Comment J-10

This comment objects to the Best Management Practice required by Section X.07(f)(3) of the proposed ordinance, which requires that wires from the electric match in the fireworks fuse be wrapped around nails installed on the racks to prevent wires from being pulled out and falling into the surrounding waters. Please see response to comment G-52 above.

Response to Comment J-11

This comment objects to the Best Management Practice required by Section X.07(f)(2) of the proposed ordinance, which requires all fireworks packaging material and debris to be properly disposed of in trash receptacles, because the packaging and wrapping may be required to repack fireworks that are not used in the display. Section X.07(f)(2) is intended to prevent fireworks packaging and debris from falling into the surrounding waters. It does not prohibit or interfere with a fireworks operator’s ability to retain packaging that may be needed to repack fireworks not used in a display and to deposit such packaging in a receptacle for later reuse as needed.

This comment also states that fireworks must be labeled under both federal and state law. The proposed ordinance will be revised to clarify that it does not require the removal of labels required by law, which is consistent with the provision of the proposed ordinance that specifically requires compliance with all applicable federal and state laws and regulations (Draft EIR, Appendix D, Section X.07(k)).

Response to Comment J-12

This comment objects to the Best Management Practice required by Section X.07(f)(2) of the proposed ordinance, which requires fireworks to be brought to the barge and loaded in their California Department of Transportation-approved shipping cartons, on the ground that the federal Department of Transportation regulates fireworks shipping cartons, not the California Department of Transportation. The first sentence of Section X.07(f)(2) of the proposed ordinance will be revised as recommended to refer to “U.S. Department of Transportation-approved shipping cartons.”

Response to Comment J-13

This comment objects to the Best Management Practices required by Section X.07(f)(7) – (10) of the proposed ordinance, which require the fireworks organizer to recover fireworks debris and other trash from the Bay in the amount of 50 percent of the net weight of the fireworks used in the event, on the ground that the amount required to be recovered is not supported by substantial evidence.

The amount of fireworks debris that the proposed ordinance requires the fireworks organizer to recover is based on an article titled *Fireworks and their Hazards* prepared by Thomas J. Poulton, M.D. and Kenneth L. Kosanke, Ph.D. dated June 1995.

This comment also states the author's opinion that it is unreasonable to require the recovery of that much trash because much of the material related to fireworks shells is burned or disintegrated in the display and non-residents of the District who sponsor fireworks display events should not be required to attend the District's annual clean-up. The District has been unable to identify any report, study, or other document that has determined what portion of fireworks shells is burned or disintegrated in a fireworks display and what portion is not destroyed and instead may fall to the surrounding land or waters. Unless facts, data or other evidence become available that would warrant a change in the amount of fireworks debris that must be recovered under the proposed ordinance, no change in the proposed ordinance is warranted.

The proposed ordinance does not require "non-residents" of the District or fireworks "sponsors" to participate in clean-up events. Section X.07(f)(7) – (10) of the proposed ordinance require the applicant for a fireworks display event permit to engage in a comprehensive series of actions intended to recover fireworks debris and other trash from the Bay in an amount of 50 percent of the weight of the fireworks used in the event. In the event the permit applicant's direct efforts to recover fireworks debris and trash immediately after an event and recover less than 50 percent of the weight of fireworks used, Section X.07(f)(10) requires the permit applicant to provide a crew to participate in the District's next scheduled annual "Operation Clean-up" to recover trash and debris from the Bay and the Imperial Beach oceanfront. Nothing in the proposed ordinance requires the participation of "non-residents" or "sponsors" of fireworks display events.

Response to Comment J-14

This comment objects to the Best Management Practice required by Section X.07(d)(2)(b) of the proposed ordinance, which prohibits fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than 5 percent of the mass of the shell or device, on the grounds that such information is not available from manufacturers or distributors of fireworks and the characteristics identified in this section of the proposed ordinance cannot be identified without destroying the shell. This requirement of the proposed ordinance is intended to protect water quality of the waters surrounding the fireworks launch area by prohibiting the use of fireworks that contain the specified non-biodegradable materials. Similar to CEQA's requirements that mitigation measures must be feasible, the District's intention in the proposed ordinance is to require Best Management Practices and other conditions that are feasible. The District is willing to consider modification of any provision of the proposed ordinance for which there is substantial evidence in the record that establishes it is infeasible. However, under CEQA, a lawyer's assertions or arguments alone do not constitute substantial evidence (see *Pala Band of Mission Indians v. County of San Diego* (1998) 68 Cal.App.4th 556, 578-580).

Response to Comment J-15

This comment states that the proposed ordinance fails to state the correct standard for fireworks weight. The proposed ordinance will be corrected to refer to the weight of fireworks that may be used in a fireworks display event as "net explosive weight" or "NEW."

Response to Comment J-16

This comment states that the requirement in Section .7(d)(1)(A) of the proposed ordinance that fireworks “contain no more than 0.32% copper (Cu) per pound of explosive material” is vague and that it is unclear if the calculations are based on net explosive weight. See response to comment J-15 that explains that the proposed ordinance will be corrected to refer to the weight of fireworks that may be used in a fireworks display event as “net explosive weight” or “NEW.” Also, the “per pound” language that the commenter finds vague was included to make clear the intent of the proposed ordinance, which is to limit copper emissions to 17 pounds per Big Bay Boom event. Lastly, as the comment correctly states, the intent of the language is to ensure that copper emissions from the Big Bay Boom event is limited to 0.32 percent of net explosive weight, or 17 pounds (e.g., 0.32 percent of 5,342 pounds net explosive weight is 17 pounds).

Response to Comment J-17

This comment states that the Draft EIR relies heavily on a study by Croteau, et al. in 2010 for its emission factors of various chemicals, including copper, but that the fireworks studied by Croteau are not like the fireworks used in public fireworks displays like those that will be subject to the proposed ordinance, which casts doubt on the quality of the Draft EIR as a whole and the wisdom of relying on the Draft EIR to regulate fireworks. The analysis presented in the Draft EIR is based on the best available science known and available at the time of analysis. The author is not aware of any studies that present emission factors for fireworks used in public fireworks displays. Studies to determine the air quality effects of public fireworks events in the United States are hard if not impossible to find, so we used the best available information, which was the peer-reviewed journal article the commenter mentions. Thus, because the air quality effects presented in the Draft EIR and the proposed ordinance’s reliance on these conclusions are based on the best available science known and available at the time of analysis, and because no other source for emission factors is known, no changes to the assumptions, emission factors, or conclusions thereof are required.

Response to Comment J-18

This comment states that there is no basis for the regulation of copper in the proposed ordinance because the fireworks in the Croteau study and the fireworks in the proposed fireworks displays are not comparable. Similar to comment J-17, the best available science from various sources, from not only the Croteau study the commenter cites, but also various other journal articles, online presentations, and the U.S. Department of Transportation table fireworks chemicals all mention the prominence of copper and copper compounds as a fireworks colorant or color agent. Copper is listed as an air toxic by California Air Resources Board and Office of Environmental Health Hazard Assessment and is known to acutely impact human respiratory systems, resulting in upper respiratory tract irritation and nausea. Knowing that copper is prevalent in fireworks and that copper is a known pollutant of concern, it would be both unwise and a violation of CEQA to dismiss copper emissions. While the commenter states that the fireworks used in the Croteau study are not comparable to public display fireworks, information concerning the copper content (as a percentage) of net explosive weight in public display fireworks is unknown, and information from the Croteau study is the best available and only information available.

Response to Comment J-19

This comment states that a projectile from any particular consumer Roman candle is not at all like any kind of aerial shell in any relevant characteristic. See responses to comments J-17 and J-18. The Croteau study is the best available science at the time of analysis. This comment only provides a criticism of the analysis but does not provide substantive evidence to dispute the assumptions and conclusions in the Draft EIR. The comment states that the fireworks used in the public fireworks displays are different than the fireworks assumed in the Croteau study, but offers no evidence to support this claim. No changes were made to the Draft EIR in response to this comment.

Response to Comment J-20

This comment states that an additional difficulty in mandating the percentage of a particular chemical like copper in a fireworks display event is that fireworks manufacturers are loathe to release precise formulations, making it impossible to determine what combination of fireworks would comply with this standard. It is understood that fireworks manufacturers tend to shy away from disclosing all ingredients in their fireworks. However, the U.S. Department of Transportation has a list of approved and prohibited chemicals that manufacturers must comply with, so it is assumed that at some level the operator could obtain a list of chemicals or get assurance from the manufacturer. Regardless, the commenter raises an issue regarding the economic or technical infeasibility of the copper reduction portion of the proposed ordinance. Accordingly, this comment will be included in the materials presented to the Board of Port Commissioners for their consideration when they make their decision whether or not to adopt the proposed ordinance.

Response to Comment J-21

This comment states that the Draft EIR cites other studies conducted in China and Europe as the basis for models and results, but the details of the fireworks used in those studies are not revealed. This is a general comment that has no bearing on the analysis. The summaries of the studies conducted in China and Europe are provided for context only and do not affect the analysis in the Draft EIR. This comment also says there is no discussion in the Draft EIR of how regulation of fireworks formulations varies in these countries from the formulations restricted by the U.S. Department of Transportation and the U.S. Consumer Product Safety Commission, or what adjustments should be made to account for these differences. The analysis in the Draft EIR does not estimate effects and health risk from any formulations that are currently restricted in the U.S. The main pollutants of concern in the study—copper, as a component of overall particulate matter, and total particulate matter—are not affected by these restrictions, so no adjustments are necessary.

Response to Comment J-22

This comment states that requiring the use of some type of environmentally friendly fireworks, when those fireworks are not yet practical or proven to be safe, is putting the horse before the cart and such fireworks are only minimally available and cost many times more than conventional fireworks. CEQA does not require the District to adopt mitigation measures for the proposed new fireworks display events or conditions of approval in the proposed ordinance that are economically or technically infeasible. However, a claim that a requirement of the proposed ordinance is infeasible must be supported by substantial evidence. The Board of Port Commissioners will consider evidence of infeasibility prior to making its decision whether or not to certify the EIR and to adopt the proposed ordinance. However, under CEQA, a lawyer's assertions or arguments alone

do not constitute substantial evidence (see *Pala Band of Mission Indians v. County of San Diego* (1998) 68 Cal.App.4th 556, 578-580).

Response to Comment J-23

This comment states that Section X.07(f)(11) of the proposed ordinance may have inadvertently designated the Fireworks Operator as the party responsible for providing trash receptacles. This comment is correct and the proposed ordinance will be corrected to substitute the term “Fireworks Organizer” in place of the term “Fireworks Operator” in Section X.07(f)(11) of the proposed ordinance.

Response to Comment J-24

This comment states that the provisions of the proposed ordinance limit the locations where fireworks display events can take place. The Draft EIR was prepared in compliance with CEQA, which requires an EIR to include a description of the proposed project that provides the “precise location and boundaries of the proposed project” (see State CEQA Guidelines § 15124(a)). This requirement limits the scope of the Draft EIR to existing and proposed fireworks display events that take place, or are proposed to take place, at specific locations. Unknown future fireworks displays could not be included in the Draft EIR because their location, as well as their number, size, duration and frequency, among other things, are presently unknown and any attempt to assess their environmental impacts would be speculative. The scope of the proposed ordinance is similarly limited to existing and proposed fireworks display events whose locations and other material characteristics are known at this time.

The comment further correctly observes that there is no provision in the proposed ordinance for other fireworks display events that are not mentioned in the proposed ordinance. This comment raises a policy issue regarding the scope of the proposed ordinance, not an environmental issue or concern regarding the adequacy of completeness of the Draft EIR. Accordingly, this comment will be included in the materials presented to the Board of Port Commissioners for their consideration when they make their decision whether or not to adopt the proposed ordinance.

Response to Comment J-25

This comment repeats the author’s concern that the proposed ordinance limits the fireworks display events that may occur in the future. Please see response to comment J-24 above. The comment also states that the proposed ordinance effectively bans fireworks display events at locations that historically have been used for such displays, such as the Manchester Grand Hyatt.

As indicated in response to comment J-24 above, District staff and consultants made extensive inquiries with the District tenants and regulatory and permitting agencies involved with fireworks display events in and around San Diego Bay and the Imperial Beach oceanfront to identify all fireworks display events that occurred on a regular basis in that area prior to commencement of preparation of the Draft EIR. Although convention guests at the Manchester Grand Hyatt may have periodically contracted for fireworks displays as stated in the comment, this location was not identified by the regulatory and permitting agencies as a site where existing fireworks display events occurred on a regular basis. This comment raises a policy issue regarding the locations at which fireworks display events will be allowed, not an environmental issue or concern regarding the adequacy of completeness of the Draft EIR. Accordingly, this comment will be included in the

materials presented to the Board of Port Commissioners for their consideration when they make their decision whether or not to adopt the proposed ordinance.

Response to Comment J-26

This comment states there is no map or chart in the Draft EIR or the proposed ordinance that shows the jurisdiction of the District compared to locations where barge-based fireworks are launched. Figure 2-1 of the EIR depicts the location of the existing and proposed fireworks launch sites with the District jurisdiction overlaid on the figure.

The comment also states that there is no discussion of the effect of a barge being outside the District's jurisdiction when the related event is in District jurisdiction. A lead agency's obligation to comply with CEQA is not limited only to environmental effects that occur within the lead agency's jurisdiction. The Draft EIR complies with CEQA by analyzing the potential environmental impacts of fireworks display events that occur in and around San Diego Bay and the Imperial Beach oceanfront, involve barges loaded within the District's jurisdiction, require a discretionary decision by the District, or are conducted by District tenants.

The comment also states that it should be easy for the District to designate eelgrass areas where barge control should be implemented.

Section X.07(g) of the proposed ordinance requires "To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds." Additionally, Section X.07(g) further states that "...tug boat operators shall be made aware of shallow eelgrass and instructed not to use high trust in the vicinity of eelgrass beds. Figure 4.3-1 includes the Bay's eelgrass habitat to assist with identifying sensitive habitat areas in the Bay.

Response to Comment J-27

This comment says it is not clear why the District distinguishes between fireworks display events that occur on the Fourth of July and events that occur at other times throughout the year. This distinction is made throughout the Draft EIR and in the proposed ordinance because fireworks display events that occur on the Fourth of July are generally much larger and impactful, both in terms of number of pounds of fireworks used, duration of the event and number of spectators, than events that occur at other times during the year (Draft EIR, Chapter 2, *Environmental Setting*, Tables 2-1 and 2-2). The distinction between these two general types of events served as an effective way to organize the analysis of environmental impacts in the Draft EIR and the conditions of approval in the proposed ordinance. The comment's assertion that the use of this distinction constitutes discrimination and suppression of expression has no merit and does not raise an environmental issue or relate to the adequacy or completeness of the Draft EIR. Accordingly, no further response is warranted.

In a footnote, the comment also states the Draft EIR does not demonstrate that there would be a significant impact on birds from fireworks displays and the burden of managing access to sensitive areas should not be dumped on fireworks organizers. The direct and indirect significant impacts of the proposed new fireworks display events and the proposed ordinance on avian species are discussed in detail in Section 4.3, *Biological Resources*, of the Draft EIR at pages 4.3-27 through 4.3-34. The requirement to mitigate these significant effects is not "dumped on fireworks organizers" by the District, but is imposed pursuant to CEQA on the party (i.e., fireworks organizer) who proposes an event that may have an adverse impact on the environment. The comment's suggestion that

environmental groups could spend some of their resources protecting such areas raises a policy issue, not an environmental issue or concern regarding the adequacy of completeness of the Draft EIR. Accordingly, this comment will be included in the materials presented to the Board of Port Commissioners for their consideration when they make their decision whether or not to adopt the proposed ordinance.

Response to Comment J-28

This comment asks why it is acceptable to allow fireworks display events at certain locations of certain sizes and durations on the Fourth of July, but not at other locations. The locations, sizes, duration and frequency of allowed for existing fireworks display events is based solely on their past occurrence. CEQA requires an EIR to identify the physical conditions in the vicinity of a proposed project at the time of commencement of environmental review. These existing conditions are referred to as the “environmental setting” and normally constitute the baseline physical conditions by which a lead agency determines whether an environmental impact is significant (State CEQA Guidelines § 15125(a)). The characteristics of existing fireworks display events, whether on the Fourth of July or other days throughout the year, are part of the environmental setting for purposes of the Draft EIR and were carried forward into the proposed ordinance.

The comment also states that there is no reason to limit Independence Day displays to July 4 because it is “common” for sponsors to have displays on Saturdays or Sundays if July 4 falls on a weekday. The proposed ordinance defines “Fourth of July Fireworks Display Event” as a fireworks display event that occurs annually on the Fourth of July (Draft EIR, Appendix D, p. 2) because in the District’s experience the existing Fourth of July fireworks display events have occurred on July 4, regardless of what day of the week July 4 occurs. The comment’s claim that this provision constitutes discrimination and suppression of expression does not raise an environmental issue or other concern regarding the adequacy or completeness of the Draft EIR. Accordingly, no further response is required.

Response to Comment J-29

This comment states that the author’s general opinion that the proposed ordinance defines a fireworks display event too broadly in some respects and too narrowly in other respects, which the author believes makes the proposed ordinance confusing and subject to misinterpretation. This comment is a general statement of opinion that does not refer to any specific section of the proposed ordinance and appears to be an introduction to other comments that follow. Therefore, no further response is possible or required.

Response to Comment J-30

This comment concerns the proposed ordinance’s definition of the meaning of “Fireworks Display Event” and its reference to any group of people exceeding 25 in number. The reference in the definition to any group exceeding 25 in number is intended to make the proposed ordinance consistent with Section 8.26 of the District Code, which makes it unlawful for any company, organization or group of persons, exceeding 25 in number, to conduct or participate in any celebration, exercise or demonstration on District property without a permit from the District. The comment’s objection to this provision raises a policy issue, not an environmental issue or concern regarding the adequacy of completeness of the Draft EIR. Accordingly, this comment will be included

in the materials presented to the Board of Port Commissioners for their consideration when they make their decision whether or not to adopt the proposed ordinance.

In a footnote, the comment states displays do not routinely include the “detonating of fireworks” and that the term detonation refers to a malfunction that results in the device not rising into the air from its launching position. The comment recommends use of the terms “launched” or “ignited” rather than “detonated.” Except where indicated otherwise, the District intends that words used in the proposed ordinance be given their plain meaning. The dictionary defines the word “detonate” to mean to explode with sudden violence or to cause to explode. The comment, including its recommendation to substitute the word “ignite” for the word “detonate” in the proposed ordinance, will be included in the materials presented to the Board of Port Commissioners for their consideration when they make their decision whether or not to adopt the proposed ordinance.

Response to Comment J-31

This comment states the author’s general opinions regarding the regulation of fireworks display event, which involve policy issues and considerations, not an environmental issue or concern regarding the adequacy of completeness of the Draft EIR. Accordingly, this comment will be included in the materials presented to the Board of Port Commissioners for their consideration when they make their decision whether or not to adopt the proposed ordinance.

Response to Comment J-32

This comment asks the Board of Port Commissioners to seriously consider the effect of the proposed ordinance on the existing regulatory scheme and the effects the proposed ordinance could have on its own tenants and cities, and to take great care not to encroach on the regulatory authorities and jurisdiction that have been in place for a very long time. This comment raises policy issues and considerations, not an environmental issue or concern regarding the adequacy of completeness of the Draft EIR. Accordingly, this comment will be included in the materials presented to the Board of Port Commissioners for their consideration when they make their decision whether or not to adopt the proposed ordinance.

Chapter MMRP

Mitigation Monitoring and Reporting Program

MMRP.1 Purpose

The purpose of this Mitigation Monitoring and Reporting Program (MMRP) is to ensure that the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events project implements mitigation measures for significant environmental effects, as required by the Final Environmental Impact Report (EIR) for the proposed project. Those mitigation measures have been integrated into this MMRP. The MMRP provides a mechanism for monitoring the mitigation measures in compliance with the EIR, and general guidelines for the use and implementation of the monitoring program are described below.

This MMRP is written in accordance with California Public Resources Code 21081.6 and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. California Public Resources Code Section 21081.6 requires the Lead Agency, for each project that is subject to CEQA, to adopt a reporting or monitoring program for changes made to the project, or conditions of approval, adopted in order to mitigate or avoid significant effects on the environment and to monitor performance of the mitigation measures included in any environmental document to ensure that implementation takes place. The San Diego Unified Port District (District) is the designated Lead Agency for the MMRP. The Lead Agency is responsible for review of all monitoring reports, enforcement actions, and document disposition. The Lead Agency will rely on information provided by a monitor as accurate and up to date and will field check mitigation measure status as required.

The District may modify how it will implement a mitigation measure, as long as the alternative means of implementing the mitigation still achieve the same or greater impact reduction. Copies of the measures shall be distributed to the participants of the monitoring effort to ensure that all parties involved have a clear understanding of the adopted mitigation measures and monitoring requirements.

MMRP.2 Format

Mitigation measures applicable to the proposed project include avoiding certain impacts altogether, minimizing impacts by limiting the degree or magnitude of the action and its implementation, and/or requiring supplemental structural controls. Within this document, approval mitigation measures are organized and referenced by subject category. Each of the mitigation measures has a numerical reference. The following items are identified for each mitigation measure.

- Mitigation Language and Numbering
- Mitigation Timing
- Methods for Monitoring and Reporting
- Responsible Parties

MMRP.2.1 Mitigation Language and Numbering

Provides the language of the mitigation measure in its entirety along with a corresponding number for identification.

MMRP.2.2 Mitigation Timing

The mitigation measures required for the project will be implemented at various times, including prior to the issuance of a fireworks permit, prior to each fireworks display event, during each fireworks display event, or following each fireworks display event.

MMRP.2.3 Methods for Monitoring and Reporting

The MMRP includes the procedures for documenting and reporting mitigation implementation efforts. The party responsible for implementing each of the mitigation measures varies. The District is responsible for all mitigation monitoring and reporting.

MMRP.2.4 Responsible Parties

For each mitigation measure, the party responsible for implementation, monitoring and reporting, and verifying successful completion of the mitigation measure is identified.

Table 1. Mitigation Monitoring and Reporting Program

Mitigation Measures	Timing and Methods	Responsible Parties
Air Quality and Health Risk		
<p>MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events in Compliance with the Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (c) Size of Fireworks Display Events. D. National City Fourth of July, not to exceed 400 pounds of fireworks E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks</p>	<p>Timing: Prior to issuance of a fireworks permit Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator Monitoring and Reporting: Fireworks Organizer, Fireworks Operator Verification: District</p>
<p>MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up: 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use. (d) Fireworks Chemical Composition and Packaging. 1. Chemical Composition. B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants</p>	<p>Timing: Prior to and during each fireworks display event Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator Monitoring and Reporting: Fireworks Organizer, Fireworks Operator Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available.</p>		
Biological Resources		
<p>MM-BIO-1: Implementation of Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (d) Fireworks Chemical Composition and Packaging. 2. Packaging. A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event. B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited. (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up: 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use. 2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved</p>	<p>Timing: Prior to issuance of a fireworks permit, prior to, during, and following each fireworks display event Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator Monitoring and Reporting: Fireworks Organizer, Fireworks Operator Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the fireworks launch area to contain debris.</p> <ol style="list-style-type: none"> 3. Wires from the electric match placed in the Fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event. 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway. 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. 		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment.</p> <p>8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.</p> <p>9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.</p> <p>10. Within ten (10) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p>		
<p>(i) Compliance with San Diego Water Board General Permit.</p> <p>1. Prior to the Executive Director's issuance of a permit</p>		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.</p> <ol style="list-style-type: none"> <li>2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article. <li>3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board. <p>(j) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.</p> <p>(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant’s failure to comply with any applicable law,</p>		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p>		
<p>MM-BIO-2: Implementation of Biological Resources–Related Conditions of the Proposed Ordinance for Indirect Impacts. The fireworks organizer and operator are required to comply with the following biological resources–related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Species and Habitat. The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 3. Security. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays. In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay. 4. Signage. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the fireworks organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior. 	<p>Timing: Prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: District, Fireworks Organizer, Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>5. Education. Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using daily announcements on social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to remind viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p>		
<p>MM-BIO-3: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Eelgrass Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance. Section X.07 – Permits – Conditions of Approval</p> <p>(g) Eelgrass Avoidance and Mitigation. For fireworks display events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of</p>	<p>Timing: Prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer, Fireworks Operator</p> <p>Monitoring and Reporting: Qualified agent, approved by the District, Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.</p>		
<p>MM-BIO-4: Fireworks Biological Monitoring Plan. Not less than 30 days before any fireworks display event in the South Bay that would occur within 1 mile of sensitive avian nesting colonies, the fireworks organizer shall submit to the District an Avian Species Nesting Colony Monitoring Plan (Monitoring Plan). The Monitoring Plan shall be prepared by a qualified biologist and approved by the District in coordination with USFWS and CDFW. A qualified biologist is a person who, by reason of his or her knowledge of the natural sciences and the principles of wildlife biology, acquired by education and experience. The Monitoring Plan shall identify the monitoring protocol that will be used to assess the effectiveness of mitigation measures MM-BIO-1 and MM-BIO-2 and shall, at a minimum, include the following:</p> <ol style="list-style-type: none"> 1. A literature review which refines the proposed methodology. 2. A list of target species identified for each individual event based on the season of the event, proximity of the event to nesting colonies, sensitivity of species, and capacity for the fireworks display event to cause species disturbance/effects. 3. Species behavior and noise data shall be collected at least 1 hour prior to, during, and 1 hour after the fireworks display event. 4. Documentation of the following data: <ol style="list-style-type: none"> a. Site location, name of monitor, date and time of observations b. Number of adults, nests, and chicks observed within one-half mile of spectator viewing areas c. Sources of stressors (e.g., light, noise, trespass, debris) d. Unauthorized access within nesting colonies e. Counts of illegal pyrotechnics <p>Within 30 days following the completion of the fireworks display event, the qualified biologist shall prepare a Monitoring Report for submittal to the District that details the findings of the monitoring</p>	<p>Timing: A minimum of 30 days prior to, during, and within 30 days following each fireworks display event</p> <p>Method: Prepare a Monitoring Plan for fireworks display events in the South Bay that would occur within 1 mile of sensitive nesting colonies, conduct biological monitoring, and prepare a Monitoring Report documenting the results of the biological monitoring.</p>	<p>Implementation: Fireworks Organizer</p> <p>Monitoring and Reporting: Qualified agent, approved by the District, Fireworks Organizer</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>results. This report shall include background/introduction, methods, results, discussion, and recommendations sections. The District shall provide a copy of the report to the USFWS and CDFW and shall coordinate with these agencies regarding the results and recommendations of the report. Based on the review of the reports for two consecutive years of monitoring, the District, in coordination with these agencies, shall determine whether continued monitoring is required.</p>		
Hydrology and Water Quality		
<p>MM-WQ-1: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Fireworks Debris. The fireworks organizer and operator are required to comply with the following water quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <ol style="list-style-type: none"> 1. Chemical Composition. <ol style="list-style-type: none"> B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available. 2. Packaging. <ol style="list-style-type: none"> A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event. B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited. <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event</p>	<p>Timing: Prior to issuance of a fireworks permit, prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>preparation, discharge and clean-up:</p> <ol style="list-style-type: none"> 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use. 2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris. 3. Wires from the electric match placed in the fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event. 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, 		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway.</p> <ol style="list-style-type: none"> 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. 7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment. 8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal. 9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal. 10. Within ten (10) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the dry weight of the fireworks trash and debris collected is less than fifty percent 		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>(50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p> <p>(i) Compliance with San Diego Water Board General Permit.</p> <ol style="list-style-type: none"> 1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit. 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article. 3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board. <p>(i) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of</p>		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>the activity allowed under said Permit.</p> <p>(j) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant’s failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p>		
<p>MM-WQ-2: Implementation of Water Quality–Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter. The fireworks organizer and operator are required to comply with the following water quality–related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(f) Best Management Practices. Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p>	<p>Timing: Prior to and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>
Noise and Vibration		
<p>MM-NOI-1: Implementation of Noise-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Sensitive Species and Habitat. The following</p>	<p>Timing: During each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 1. Location. Fireworks display events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches. 2. Salutes. Fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display). 		<p>Operator</p> <p>Verification: District</p>
Transportation, Circulation, and Parking		
<p>MM-TRA-1: Implementation of the Transportation-Related Conditions of the Proposed Ordinance. The fireworks organizer is required to comply with the following transportation-related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(h) Event Transportation and Parking Management Plans. For all Fourth of July fireworks display events and for non-Fourth of July fireworks display events that are advertised to the public, the fireworks organizer shall prepare and submit an event transportation and parking management plan to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The Event Transportation and Parking Management Plan shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:</p> <ol style="list-style-type: none"> 1. Transportation management strategies, including but not limited to a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which 	<p>Timing: Prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer</p> <p>Monitoring and Reporting: Fireworks Organizer</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>shall be implemented for the fireworks display event; and</p> <p>2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, offsite parking arrangements, designated areas for taxi and rideshare pick-up/drop-off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations.</p> <p>(i) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state, and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city that has jurisdiction over all or any part of the activity allowed under said Permit.</p>		

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PORT of SAN DIEGO

Final Environmental Impact Report

**San Diego Bay and Imperial Beach Oceanfront
Fireworks Display Events Project**



Volume II of III

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May 2017

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DRAFT ENVIRONMENTAL IMPACT REPORT SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT FIREWORKS DISPLAY EVENTS PROJECT

VOLUME I OF II

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Acronyms and Abbreviations

µg/L	micrograms per liter
µg/m ³	micrograms per cubic meter
µPa	microPascals
AB	Assembly Bill
ACC	Advanced Clean Cars
ADT	average daily traffic
AEP	Association of Environmental Professionals
ALS	Advanced Life Support
ALUC	Airport Land Use Commission
AQIA	Air Quality Impact Analysis
AR4	IPCC Fourth Assessment Report
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BACT	best available control technology
BAU	business as usual
BMP	best management practice
BTU	British thermal unit
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEnviroScreen	California Communities Environmental Health Screening Tool
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CCA	California Coastal Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	methane
CHE	cargo-handling equipment
CMP	Congestion Management Program
CNEL	community noise equivalent level
CO	carbon monoxide
CO ₂	carbon dioxide

CO ₂ e	carbon dioxide equivalent
COMM	Ocean, Commercial, and Sport Fishing
Cr+6	hexavalent chromium
CSLC	California State Lands Commission
CTR	California Toxics Rule
Cu	copper
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DHS	U.S. Department of Homeland Security
District	San Diego Unified Port District
DOT	Department of Transportation
DPM	diesel particulate matter
EIR	environmental impact report
EO	Executive Order
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
EST	Estuarine Habitat beneficial use
FAA	Federal Aviation Administration
FBMPP	Fireworks Best Management Practices Plan
FEMA	Federal Emergency Management Agency
General Permit	General NPDES Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States in the San Diego Region from the Public Display of Fireworks
GHG	greenhouse gas
Guidelines	Guidelines for the Exclusion of Temporary Events from Coastal Commission Permit Requirements
GWP	global warming potential
HA	hydrologic area
HC	hydrocarbons
HFCs	hydrofluorocarbons
HI	hazard index
HMD	San Diego County Department of Environmental Health's Hazardous Materials Division
HPD	San Diego Harbor Police Department
HRA	Health Risk Assessment
HREA	Health Risk and Exposure Assessment
HU	hydrologic unit
Hz	Hertz
I-	Interstate

ILV	intersection lane volume
INRMP	Integrated Natural Resources Management Plan
IPCC	Intergovernmental Panel on Climate Change
IRWMP	Integrated Regional Water Management Plan
ITE	Institute of Transportation Engineers
JRMP	Jurisdictional Runoff Management Plan
kWh	kilowatt hour
LCFS	Low Carbon Fuel Standard
L _{dn}	day-night sound level
L _{eq}	equivalent sound level
L _{max}	maximum sound level
L _{min}	minimum sound level
LOS	level of service
LT	long term
m/s	meter per second
MAR	marine habitat
MBNMS	Monterey Bay National Marine Sanctuary
MBTA	Migratory Bird Treaty Act
MEI	maximum exposed individual
mg/L	milligrams per liter
MHHW	mean higher high water
MHPA	Multi-Habitat Planning Area
MICR	maximum incremental cancer risk
MLLW	mean lower-low water
MMPA	Marine Mammal Protection Act
mph	miles per hour
MS4	municipal separate storm sewer system
MSCP	Multiple Species Conservation Program
MSL	mean sea level
MTCO _{2e}	metric tons of carbon dioxide equivalent
MTS	Metropolitan Transit System
MWh	megawatt hour
N ₂ O	nitrous oxide
NAAQS	national ambient air quality standards
NAB Coronado	Naval Amphibious Base Coronado
NAS	Naval Air Station
NASSCO	General Dynamics National Steel and Shipbuilding Company
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO ₂	nitrogen dioxide

NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
NRMP	Natural Resources Management Plan
NSR	New Source Review
NTR	National Toxics Rule
NWR	National Wildlife Refuge
O ₃	ozone
OBOD	open burning and open detonation
OEHHA	Office of Environmental Health Hazard Assessment
OGV	ocean-going vessel
OPA	Oil Pollution Act
OSPR Act	California Oil Spill Prevention and Response Act of 1990
PAH	polycyclic aromatic hydrocarbon
Pb	lead
PCB	polychlorinated biphenyl
PeMS	Performance Measurement System
PFCs	perfluorinated carbons
PM	particulate matter
PM10	particulate matter less than or equal to 10 microns in diameter
PM2.5	particulate matter less than or equal to 2.5 microns in diameter
PMP	Port Master Plan
Port Act	San Diego Unified Port District Act
Porter Cologne Act	Porter-Cologne Water Quality Control Act of 1969
ppb	parts per billion
ppm	parts per million
ppt	parts per trillion
proposed ordinance	San Diego Unified Port District Code section
proposed project	San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
RAQS	Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
REC-1	Contact Water Recreation
Regional Plan	San Diego Forward: Regional Plan
REL	Reference Exposure Level
Reporting Rule	Greenhouse Gas Reporting Rule
ROG	reactive organic gas
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RV	recreational vehicle

RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SANTEC	San Diego Traffic Engineers' Council
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse and Planning Unit
SCS	sustainable communities strategy
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDFD	City of San Diego Fire-Rescue Department
SDG&E	San Diego Gas and Electric
SDIA	San Diego International Airport
SDPD	San Diego Police Department
SDRWQCB	San Diego Regional Water Quality Control Board
SF ₆	sulfur hexafluoride
SHELL	Shellfish Harvesting
SIP	State Implementation Policy
SLR	sea-level rise
SLT	screening-level threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TMDL	total maximum daily load
U.S.S. Midway Museum	U.S.S. Midway Aircraft Carrier Museum
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
VOC	volatile organic compound
VSR	vessel speed reduction
WMA	Watershed Management Area
WoS	waters of the state
WoUS	waters of the United States
WQIP	Water Quality Improvement Plan

ES.1 Introduction

This chapter provides a summary of the Draft Environmental Impact Report (EIR) prepared for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (proposed project), prepared in compliance with the California Environmental Quality Act (CEQA). The San Diego Unified Port District (District) is the CEQA Lead Agency for the EIR and, as such, has the primary responsibility for evaluating the environmental effects of the proposed project and considering whether to approve or disapprove the proposed project in light of these effects.

As required by CEQA, this Draft EIR does the following: (1) describes the proposed project, including its location, objectives, and features; (2) describes the existing conditions at the project site and nearby environs; (3) analyzes the direct, indirect, and cumulative adverse physical changes that would occur in the existing conditions should the proposed project be implemented; (4) identifies feasible means of avoiding or substantially lessening the significant adverse effects; (5) provides a determination of significance for each impact after mitigation is incorporated; and (6) evaluates a reasonable range of feasible alternatives to the proposed project that would meet the basic project objectives and reduce a project-related significant impact.

This Executive Summary covers the following topics: (1) Project Description; (2) Areas of Controversy/Issues Raised by Agencies and the Public; and (3) Issues to Be Resolved, including significant environmental effects and the consideration of alternatives to the proposed project.

ES.2 Project Description

ES.2.1 Project Overview

The proposed project consists of (1) an ordinance establishing a District Code section (proposed ordinance) to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District. Discretionary actions for fireworks display events that may require District approval include, but are not limited to, the following:

- Sponsorship agreement
- Special event permit
- Lease and lease amendment
- Tideland Use and Occupancy Permit
- Right of Entry Permit
- Coastal Act Categorical Determination of Exclusion
- Coastal Development Permit

Fireworks display events that require a discretionary action by the District or are operated by the District's tenants have been occurring on the Fourth of July and at other times throughout the year for more than a decade. The most prominent existing fireworks display events are the annual Fourth of July Big Bay Boom in San Diego Bay and the Fourth of July Imperial Beach Fireworks Show. Furthermore, the Fireworks Show Over Glorietta Bay is an existing display whose fireworks organizers may seek to obtain funding from the District in the future, which would require a discretionary action by the District. Existing fireworks display events that occur at other times throughout the year include those associated with the San Diego Symphony's Summer Pops concert series (multiple small displays) and the Our Lady of Rosary Church annual procession, along with the U.S.S. Midway Aircraft Carrier Museum (U.S.S. Midway Museum) (multiple small displays) and General Dynamics National Steel and Shipbuilding Company (NASSCO) displays. The four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts, are anticipated to require a future discretionary action by the District, as discussed further below.

ES.2.2 Fireworks Display Event Locations

Existing Fireworks Display Events

Existing fireworks display events currently occur at several locations within San Diego Bay, a natural harbor and deep-water port in southern San Diego County, and the Imperial Beach Oceanfront. San Diego Bay is an active maritime environment that provides passage and berthing for numerous types of boats and vessels, including small recreational boats that moor at dock marinas and open anchorage marinas within the Bay, mid-sized vessels such as private yachts and harbor cruise boats, and large vessels that consist of naval ships, cruise ships, cargo ships, and shipping barges. Fireworks display events within San Diego Bay take place off Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), and the NASSCO ship repair facility. In addition, fireworks display events take place along the Coronado Bayfront within Glorietta Bay (an inlet of San Diego Bay adjacent to Coronado Island) and the Imperial Beach Oceanfront. A list of existing fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach annually and a summary of the activity associated with them are provided in Tables 2-1 and 2-2, respectively, of Chapter 2, *Environmental Setting*.

Proposed New Fireworks Display Events

There are currently no fireworks display events along the National City or Chula Vista Bayfronts. Along the National City Bayfront, it is anticipated that future fireworks display events would take place from a barge within view of Pepper Park because Pepper Park is the closest publicly accessible gathering space near the National City Bayfront. Pepper Park is located along Tidelands Avenue in National City. The site is adjacent to the Sweetwater Channel, north of the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street Fill to the south, south of the National City Marine Terminal, east of San Diego Bay, and west of Pier 32 Marina. Interstate 5 (I-5) runs northeasterly approximately 0.4 mile from the park site boundary. Pepper Park site access is provided via Tidelands Avenue, which turns into Goesno Place as it approaches the park. One fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the vicinity of Pepper Park.

Along the Chula Vista Bayfront, it is anticipated that fireworks display events would take place from a barge within view of both the Chula Vista Bayside Park and the Chula Vista Bayfront Park. Bayside Park is a waterfront park accessed by Bayside Parkway. It is bounded to the north by a boatworks facility, to the south by a man-made inlet that contains marinas, to the east by a recreational vehicle (RV) park, and to the west by San Diego Bay. Bayfront Park is on the south side of the man-made inlet and is bounded to the south and west by San Diego Bay and to the east by the marinas of the man-made inlet as well as vacant land. The park is accessed by Marina Way. I-5 is approximately 0.5 mile to the east of the Chula Vista Bayfront. A total of three fireworks display events (including one on the Fourth of July) along the Chula Vista Bayfront area are allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan and are anticipated to involve the placement of a single, temporary barge in the Bay in the vicinity of the two parks.

Proposed new fireworks display events are described below in more detail in Section ES.2.5, *Project Operations*.

ES.2.3 Project Objectives

The District has identified the following objectives for the proposed project.

1. To develop a District ordinance that establishes policies, performance standards, and other requirements that would be applied to fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach and require a discretionary action by the District or are operated by the District's tenants;
2. To allow for the continued occurrence of traditional fireworks display events¹ in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants, including on the Fourth of July, providing a popular and region-wide way to celebrate and express civic pride;
3. To allow for the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants in a manner that considers the health, safety, and welfare of people, property, and the environment; and
4. To continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available.

¹ A traditional fireworks display event involves the use of display fireworks that are defined by the U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives as large fireworks used in fireworks display shows, generally under the supervision of a trained pyrotechnician. These fireworks are designed primarily to produce visible or audible effects by combustion, deflagration, or detonation. They include, but are not limited to, salutes containing more than 2 grains (130 milligrams) of flash powder, aerial shells containing more than 40 grams of pyrotechnic compositions (including any break charge and visible/audible effect composition but exclusive of lift charge), and other display pieces that exceed the limits of explosive materials for classification as "consumer fireworks." They also include fused set pieces containing components that together exceed 50 milligrams of flash powder. Display fireworks are classified as fireworks UN0333, UN0334, or UN0335 by the U.S. Department of Transportation (U.S. ATF 2016).

ES.2.4 Proposed Ordinance

As stated above, the proposed project consists of an ordinance to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants. The proposed ordinance addresses the following:

- Permit procedures and requirements for the conduct of fireworks displays
- Compliance with applicable federal, state, and local laws and regulations governing fireworks, including, but not limited to:
 - Code of Federal Regulations
 - Clean Water Act
 - California Health and Safety Code
 - California Code of Regulations
 - CEQA
 - California Coastal Act
- Compliance with applicable federal, state, and local plans and permits governing fireworks, including, but not limited to:
 - San Diego Regional Water Quality Control Board's (SDRWQCB's) General Permit for Public Display of Fireworks (Order No. R9-2011-0022)
 - District's Climate Action Plan
 - District's Stormwater Management and Discharge Control Code
 - Integrated Natural Resources Management Plan
 - Chula Vista Bayfront Master Plan Natural Resources Management Plan
- Consistency with the features and characteristics of each individual fireworks display event analyzed in this Draft EIR, including, but not limited to:
 - Allowable launch site locations for individual displays
 - Total pounds of fireworks for individual displays
 - Allowable shell size(s) for individual displays
 - Frequency of individual displays
 - Duration of individual displays
- Compliance with the applicable mitigation measures identified in the Mitigation Monitoring and Reporting Program for the proposed project

ES.2.5 Project Operations

A number of fireworks display events occur year-round in and around San Diego Bay and the Pacific Ocean near Imperial Beach. A list of these fireworks display events is provided in Table 2-1 of

Chapter 2, *Environmental Setting*. These fireworks display events would be subject to the proposed ordinance.

In addition to the existing fireworks display events, the proposed ordinance would govern four proposed new fireworks display events, including three displays along the Chula Vista Bayfront as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July display along the National City Bayfront. The three proposed fireworks display events along the Chula Vista Bayfront include one Fourth of July display and two non-Fourth of July displays. It is anticipated that the District would consider annually whether or not to provide event sponsorship and/or issue a Special Event Permit, Right-of-Entry Permit, Tideland Use and Occupancy Permit, Coastal Development Permit, Coastal Act Categorical Determination of Exclusion, or other similar approval for these proposed new fireworks display events. These proposed new fireworks display events are anticipated to last approximately 3 to 10 minutes for non-Fourth of July displays and 15 to 20 minutes for Fourth of July displays, and the fireworks are anticipated to be launched from barges within San Diego Bay. These proposed new fireworks display events would also be governed by the proposed ordinance. The proposed new fireworks display events are identified in Table ES-1, below.

Table ES-1. Proposed New Fireworks Display Events Requiring a Future Discretionary Action by the District

Time of Year	Approximate Number of Fireworks Display Events	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event	Approximate Shell Size
January–March	1	• Chula Vista ¹	3–10 minutes	2–8 inches
April–June	—	—	—	—
July–September	2	• Chula Vista ² • National City ²	15–20 minutes	3–8 inches
October–December	1	• Chula Vista ¹	3–10 minutes	2–8 inches
TOTAL³	4			

¹ Non-Fourth of July display (smaller display)

² Fourth of July display

³ Total includes three fireworks display events along the Chula Vista Bayfront, as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan.

Table ES-2 summarizes the total pounds of fireworks estimated in this Draft EIR for each proposed new fireworks display event. Because no fireworks display events currently occur along the National City or Chula Vista Bayfronts, the total pounds of fireworks used to produce these displays is not yet known. However, for the purposes of this Draft EIR, the total pounds of fireworks for the National City and Chula Vista Bayfronts Fourth of July fireworks display events is anticipated to be 456 pounds for each display, which is similar to the Fourth of July Imperial Beach Fireworks Show (see Table ES-2). For the proposed new non-Fourth of July fireworks display events that would occur along the Chula Vista Bayfront, the total pounds of fireworks was estimated by scaling the duration of the Fourth of July Imperial Beach Fireworks Show (20-minute display) by the number of minutes for each proposed new fireworks display event (assumed to range between 3 and 10 minutes with an average duration of 5 minutes, similar to existing displays operated by the San Diego Symphony

during the Summer Pops concert series and U.S.S. Midway Museum), which equals an estimated 114 pounds for each display. Because the proposed ordinance would require consistency with the features and characteristics of each individual fireworks display event analyzed in this Draft EIR, including, but not limited to, the total pounds of fireworks and durations for individual displays, the values provided in Table ES-2 represent the maximum allowable pounds of fireworks and durations for the proposed new displays along the Chula Vista and National City Bayfronts assumed in this Draft EIR. Similarly, because the proposed ordinance would also govern the existing fireworks display events identified above, the values provided in Chapter 2, Table 2-2, also represent the maximum allowable pounds of fireworks for each existing fireworks display event assumed in this Draft EIR. If an existing fireworks display event identified in Chapter 2, Table 2-2, is proposed to be modified in the future, a new additional fireworks display event is proposed that was not analyzed in this Draft EIR, or any of the characteristics provided in Table ES-1 (e.g., magnitude and/or duration) of the four proposed new fireworks display events are proposed to be modified, the fireworks display event will be subject to additional environmental review, pursuant to State CEQA Guidelines Section 15168(c).

Table ES-2. Summary of Activity Associated with the Proposed Fireworks Display Events

Fireworks Display Event	Day of Event	Number of Events	Pounds of Fireworks per Event	Pounds of Fireworks Annually	Number of Barges Used per Event
Chula Vista Bayfront ¹	Fourth of July plus two other shows	3	456 ¹ 114 ²	684	1
National City Bayfront ¹	Fourth of July	1	456 ¹	456	1

Source: District 2016

¹ The total pounds of fireworks display events in the Chula Vista Bayfront and National City Bayfront areas on the Fourth of July is anticipated to be 456 pounds, similar to the Fourth of July Imperial Beach Fireworks Show.

² The total pounds of non-Fourth of July fireworks events estimated by scaling the Fourth of July Imperial Beach Fireworks Show (20-minute event) by the number of minutes for each fireworks display event (assumed to average 5 minutes), which equals an estimated 114 pounds each.

Both existing and proposed new fireworks display events involve coordination between several agencies, organizations, and businesses, as detailed below. The definitions below pertain to terminology used in the description of fireworks display events in the following paragraphs and throughout this Draft EIR.

- *Sponsor* generally refers to an individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency, or other legal entity, or the agent or employee thereof, that contributes funds, services, or other similar goods to a *fireworks organizer* in support of a fireworks display event. The District has historically been a *sponsor* of several of the fireworks display events described below.
- *Fireworks organizer* generally refers to the individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency, or other legal entity, or the agent or employee thereof, proposing to conduct a fireworks display event. The *fireworks organizer* is typically responsible for obtaining all required funding, entitlements, and approvals for a fireworks display event, as well as contracting with a *fireworks*

operator to produce the fireworks display event. Historically, the District has entered into agreements with *fireworks organizers* in order to sponsor several of the fireworks display events described below.

- *Fireworks operator* generally refers to a State of California–licensed pyrotechnic operator who, by examination, experience, and training, has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted. A *fireworks operator* is typically responsible for supplying, setting up, and detonating the pyrotechnic devices associated with a fireworks display event. The *fireworks operator* is also typically under contract with the *fireworks organizer* to produce the fireworks display event. Historically, the District has not had a direct relationship with the *fireworks operator*.

All existing and proposed new fireworks display events that either require a discretionary action by the District or that are operated by the District’s tenants would be subject to all applicable federal, state, and local laws and regulations governing fireworks as well as any additional requirements set forth in the proposed ordinance.

ES.3 Areas of Known Controversy/Issues Raised by Agencies and the Public

Section 15123 of the State CEQA Guidelines requires the summary of an EIR to include areas of controversy known to the Lead Agency, including issues raised by agencies and the public. The District circulated a Notice of Preparation (NOP) to solicit agency and public comments on the scope and content of the environmental analysis beginning on August 7, 2015, and ending on September 8, 2015. The NOP was mailed to public agencies, organizations, and other interested individuals to solicit their comments on the scope and content of the environmental analysis. The District also held a public scoping meeting on August 25, 2015, at the District’s Administration Building at 3165 Pacific Highway, San Diego, CA, 92101. The Initial Study/Environmental Checklist and NOP are included as Appendix A.

Seven comment letters were received during the NOP public review period. The primary issues raised were related to air quality, greenhouse gas emissions, water quality, and biological resources. A summary of all comments received is included in Table 1-2 of Chapter 1, *Introduction*, and all NOP comment letters are included in Appendix B of this Draft EIR.

ES.4 Issues to be Resolved

ES.4.1 Summary of Project Impacts

This Draft EIR examines the potential environmental effects of the proposed project, including information related to existing conditions, analyses of the types and magnitude of individual and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid environmental impacts. In accordance with Appendix G of the State CEQA Guidelines, the potential environmental effects of the proposed project were analyzed for the following areas.

- Aesthetics and Visual Resources
- Hydrology and Water Quality

- Air Quality and Health Risk
- Biological Resources
- Greenhouse Gas Emissions, Climate Change, and Energy
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise and Vibration
- Public Services and Facilities
- Transportation, Circulation, and Parking

Table ES-3, presented at the end of this chapter, provides a summary of the environmental impacts that could result from implementation of the proposed project and feasible mitigation measures that would reduce or avoid the impacts. For each impact, Table ES-3 identifies the significance of the impact before mitigation, applicable mitigation measures, and the level of significance of the impact after the implementation of the mitigation measures. “Effects Found Not to be Significant,” in accordance with Section 15128 of the State CEQA Guidelines, are discussed further in Chapter 6, *Additional Consequences of Project Implementation*.

ES.4.2 Summary of Project Alternatives

The following alternatives are analyzed in detail in Chapter 7 of this Draft EIR. The objective of the alternatives analysis is to consider a reasonable range of potentially feasible alternatives to foster informed decision-making and public participation. The alternatives to the proposed project are summarized below.

Alternative 1 – No Project Alternative

The No Project Alternative is required by CEQA to discuss and analyze potential impacts that would occur if the proposed project was not implemented. Under the No Project Alternative, the proposed ordinance would not be adopted and no performance standards to regulate the environmental effects of existing fireworks display events occurring in San Diego Bay or the Imperial Beach Oceanfront would be implemented. In addition, the four proposed new fireworks display events along the National City and Chula Vista Bayfronts would not occur. However, all existing fireworks display events that require a discretionary approval by the District or are operated by the District’s tenants and have obtained all necessary agency permits, such as the General Permit from SDRWQCB, would continue to occur, including but not limited to those listed in Table 5-2, *Cumulative Fireworks Display Events*, in Chapter 5, *Cumulative Impacts*.

Alternative 2 – Quiet Fireworks Display Events Alternative

The Quiet Fireworks Display Events Alternative would require the proposed new fireworks display events along the National City and Chula Vista Bayfronts to be quiet fireworks display events that would not exceed a noise limit of 120 dBA.² For this type of fireworks display event, the pyrotechnicians design a fireworks package that relies on the quieter types of fireworks. These fireworks display events would eliminate the use of “salute,” rocket, and mine fireworks altogether (*salute* fireworks, also known as maroon fireworks, are fireworks designed to make a very loud bang and an intense flash of light) and instead focus on rich color effects and tight visual choreography in order to garner similar entertainment value out of the display. Generally, fireworks used in quiet

² 120 dB maximum A-weighted impulse sound pressure level as measured at a horizontal distance of 15 meters from the testing point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.

fireworks display events would include fountains, wheels, cakes (such as crossettes, comets, spinners or turbillions, colored stars, fish or bees, and falling leaves), Chinese lanterns, and lanceworks (United Kingdom Fireworks Review 2016). It is important to note that the use of these fireworks would create a quieter, but not silent, fireworks display event. In addition, quiet fireworks display events would involve fireworks that are concentrated closer to the ground with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell. Therefore, while these displays would be in the same locations as those specified for the proposed project (as detailed in Chapter 3, *Project Description*), i.e., on barges, because quiet fireworks display events would rely on fireworks that cannot achieve the same heights or the same magnitude as traditional fireworks displays they would not be as prominently visible and the viewing area would be smaller than that which exists for the proposed project. The Quiet Fireworks Display Events Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on nearby sensitive receptors.

Alternative 3 – No Salute Fireworks Alternative

Salute fireworks, which are fireworks specifically designed to create a loud bang and intense flash of light, are the loudest type of firework. The primary purpose of salute shells is to announce the beginning and end of the display and produce a loud, percussive effect. From a distance, these shells sound similar to cannon fire when detonated (NMFS 2006). While the noise level of these fireworks varies by type, a typical linear (unweighted) peak noise level directly below a 3-inch salute exploding at its normal altitude is 140 decibels (dB) (Journal of Pyrotechnics, Inc. 2012). The No Salute Fireworks Alternative would have the same characteristics as all of the fireworks display events that compose the proposed project, including the same total pounds of fireworks per event (as outlined in Table 3-2 in Chapter 3, *Project Description*), but would prohibit the use of salute fireworks and limit the noise produced by all fireworks during fireworks display events to a maximum of 140 dB.³ Rockets, mines, and all firework types described under the Quiet Fireworks Display Events Alternative would be allowed as long as they do not exceed the 140 dB noise limit. The No Salute Fireworks Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on sensitive receptors.

Environmentally Superior Alternative

Pursuant to CEQA, the EIR is required to identify the environmentally superior alternative. Although the No Project Alternative reduces the greatest number of significant impacts, CEQA requires that when the environmentally superior alternative is the No Project Alternative, another alternative should be identified. Therefore, as indicated in Table 7-2 of Chapter 7, *Alternatives to the Proposed Project*, the Quiet Fireworks Display Event Alternative would be the environmentally superior alternative. Because it would involve the use of quieter fireworks, the Quiet Fireworks Display Event Alternative would reduce the amount of noise generated by the proposed new fireworks display events, and therefore would reduce significant and unavoidable noise impacts compared to the proposed project. Therefore, as documented throughout the alternatives section, impacts associated with other resources, such as light and glare, biological resources, and transportation, circulation,

³ 140 dB linear (unweighted) peak sound pressure level as measured directly under the shell burst occurring at its normal altitude, using a Type 1 sound measuring device with a free-field microphone at a height of 1 meter above the ground.

and parking, would also be reduced. However, the Quiet Fireworks Display Events Alternative would not meet the fundamental project objectives.

Table ES-3. Project Impacts and Mitigation Measures

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.1 Aesthetics and Visual Resources				
Project Impacts				
New Source of Substantial Light or Glare	<i>Proposed New Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	Implementation of the proposed new fireworks display events would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	The effects of the proposed ordinance on existing fireworks display events would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.			
Cumulative Impacts				
The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative aesthetics and visual resources impacts would not be cumulatively considerable.				
4.2 Air Quality and Health Risk				
Project Impacts				
Conflict with an Air Quality Management Plan	<i>Proposed New Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	Implementation of the proposed new fireworks display events would not conflict with or obstruct implementation of an applicable air quality plan.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>	LS	No mitigation is required.	N/A
	The effects of the proposed ordinance on existing fireworks display events would not conflict with or obstruct			

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Violate Air Quality Standard	<p>implementation of an applicable air quality plan.</p> <p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-AQ-1: Emissions in Excess of PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events. Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County Significance Level Thresholds (SLTs) for particulate matter 2.5 microns or less in diameter (PM2.5). The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by the San Diego Air Pollution Control District (SDAPCD) to attain the PM2.5 National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).</p>	PS	<p>MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events with Compliance with the Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(c) Size of Fireworks Display Events.</p> <ul style="list-style-type: none"> D. National City Fourth of July, not to exceed 400 pounds of fireworks E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks <p>MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <ol style="list-style-type: none"> 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>shall be shut down when not in use.</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <ol style="list-style-type: none"> 1. Chemical Composition. <ol style="list-style-type: none"> B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available. 	
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	<p>The effects of the proposed ordinance on existing fireworks display events would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.</p>	LS	No mitigation is required.	N/A
<i>Proposed New Fireworks Display Events</i>				
<p>Cumulatively Considerable Criteria Pollutant Contribution under an Ambient Air Quality Standard</p>	<p>Impact-AQ-2: Cumulative Emissions in Excess of PM2.5 Thresholds During Combined Fourth of July Fireworks Display Events. Project emissions during new Fourth of July fireworks display events, before mitigation, would exceed the threshold for PM2.5 and, when combined with other nearby past, present, and probable future projects, may result in a cumulatively considerable net increase of a criteria pollutant for</p>	PS	Implement MM-AQ-1 and MM-AQ-2 .	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>which the region is in nonattainment under an applicable state ambient air quality standard. The contribution of project-related emissions is considered significant because the proposed project would exceed thresholds that have been set by SDAPCD to attain the CAAQS during Fourth of July fireworks display events.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not result in a cumulatively considerable net increase in a nonattainment pollutant.</p>	LS	No mitigation is required.	N/A
Sensitive Receptors	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not expose sensitive receptors to substantial pollutant concentrations.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not expose sensitive receptors to substantial pollutant concentrations.</p>	LS	No mitigation is required.	N/A
Objectionable Odors	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not create objectionable odors affecting a substantial number of people.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	would not create objectionable odors affecting a substantial number of people.			
Cumulative Impacts				
Criteria Pollutants	<i>Proposed New Fireworks Display Events</i>			
	Impact-C-AQ-1: Emissions in Excess of Cumulative PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events. Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County SLTs for PM2.5. The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by SDAPCD to attain the PM2.5 NAAQS and CAAQS.	PS	Implement MM-AQ-1 and MM-AQ-2	LS
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not contribute to cumulative air quality and health risk impacts, and would be less than cumulatively considerable.	LS	No mitigation is required	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.3 Biological Resources				
Project Impacts				
Candidate, Sensitive, or Special-Status Species	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-BIO-1: Potential Direct Impact on Marine Reptiles from Fireworks-Generated Trash and Debris. The introduction of fireworks-generated trash and debris could cause injury to green sea turtles because the turtles may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Direct impacts on green sea turtles from fireworks-generated trash and debris that enter the water may be significant.</p> <p>Impact-BIO-2: Potential Indirect Impacts on Marine Reptiles from Increased Human and Boating Activity. The increase in boat traffic, particularly nighttime and out-of-channel traffic, would increase the potential for propeller strikes, which may cause injury to or death of green sea turtles. Increased boating activities could cause the animals to temporarily depart the project area before, during, and after the time of the proposed new fireworks display events to avoid higher vessel traffic. The increase in activity may also affect the turtles' foraging habits in that individuals may spend more time underwater, swim at greater speeds, and alter other life history traits leading to greater energy expenditure. The introduction of</p>	PS	<p>MM-BIO-1: Implementation of Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <p>2. Packaging.</p> <p>A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels from all fireworks to be used in the event.</p> <p>B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3)</p>	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>human-generated trash could also cause injury to turtles if they mistakenly consume the waste, causing suffocation, starvation, or debilitation. These potential indirect impacts on marine reptiles may be significant.</p> <p>Impact-BIO-3: Potential Direct Impact on Avian Species from Fireworks-Generated Trash and Debris. The introduction of fireworks-generated trash and debris could cause injury to avian species because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Direct impacts on avian species from fireworks-generated trash and debris that enter the water may be significant.</p> <p>Impact-BIO-4: Potential Indirect Impacts on Special-Status Avian Species from Increased Human and Boating Activity. The proposed new fireworks display events have the potential to result in indirect impacts on special-status avian species, particularly California least tern and western snowy plover, as a result of increased foot traffic on sand dunes and beaches that can cause disturbance to nesting sites during and immediately after the proposed new fireworks display events. Additional indirect impacts potentially include increased trash associated with human use and noise associated with boating activity adjacent to nesting sites. The</p>		<p>minutes and all such trucks and equipment shall be shut down when not in use.</p> <ol style="list-style-type: none"> 2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the fireworks launch area to contain debris. 3. Wires from the electric match placed in the Fireworks fuse shall be wrapped around nails that are installed on the racks to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event. 5. Following the fireworks display event and upon expiration of any safety period required 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>introduction of human-generated trash could also cause injury to special-status birds because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. While many nesting sites for California least tern and western snowy plover in San Diego Bay are behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of nesting and roosting areas may be significant.</p>		<p>by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway.</p> <ol style="list-style-type: none"> 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. 7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment. 8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>prior to its disposal.</p> <p>9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.</p> <p>10. Within five (5) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p> <p>(i) Compliance with San Diego Water Board General Permit.</p> <p>1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.</p> <ol style="list-style-type: none"> 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article. 3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board. <p>(j) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant’s failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p> <p>MM-BIO-2: Implementation of Biological Resources–Related Conditions of the Proposed Ordinance for Indirect Impacts. The fireworks organizer and operator are required to comply with the following biological resources–related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Species and Habitat. The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 3. Security. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays.</p> <p>4. Signage. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the fireworks organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.</p> <p>5. Education. Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to remind viewers of appropriate viewing behavior in and near sensitive nesting colonies and</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures). (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up: 11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks operator shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.	
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not have an adverse effect on candidate, sensitive, or special-status species.	LS	No mitigation is required.	N/A
Sensitive Natural Community/ Federally Protected Wetlands	<i>Proposed New Fireworks Display Events</i> Impact-BIO-5: Potential Direct Impact on Sensitive Habitat and Wetlands from Fireworks-Generated Trash and Debris. The waste resulting from exploded fireworks shells could fall primarily into the waters of San Diego Bay. It is anticipated that some of this debris could sink to the bottom, and a smaller amount could wash onto adjacent beaches and shorelines. Direct impacts on sensitive habitats and	PS	Implement MM-BIO-1 and MM-BIO-2 . MM-BIO-3: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Eelgrass Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (g) Eelgrass Avoidance and Mitigation. For fireworks display events with launching sites located in	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>federally protected wetlands of south San Diego Bay from fireworks-generated trash and debris that enter the water are considered significant.</p> <p>Impact-BIO-6: Potential Direct Impact on Eelgrass Habitat from Fireworks Barges and Tugboat Activity. The positioning of fireworks barges along the Chula Vista Bayfront over the shallow flats could result in direct impacts on eelgrass habitat and its nursery habitat functions, particularly at low tides. Impacts could occur as a result of temporary grounding or settling of barges and tugboats on the bottom at low tide. Additional impacts could occur from propeller wash or propeller drag from tugboats during barge maneuvering. Tugboats have large propellers and high thrust capacity that could dredge up eelgrass in shallow waters, even if grounding does not occur. Potential direct impacts on eelgrass habitat are considered significant.</p> <p>Impact-BIO-7: Potential Indirect Impact on Sensitive Habitat and Wetlands from Increased Human and Boating Activity. Increased boat traffic could result in minor damage to eelgrass beds through unauthorized anchoring and/or propeller dragging. Additionally, visitors that view the proposed new fireworks display events from kayaks or personal watercraft could drag these watercraft onto</p>		<p>shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>shorelines adjacent to coastal salt marshes and inadvertently damage eelgrass or marsh habitat. The proposed new fireworks display events could attract crowds to the Silver Strand State Beach, some of whom may trespass into restricted beach areas that are utilized by sensitive avian species. Potential impacts on habitats include trampling of vegetation and an increase of human-generated trash and litter. Indirect impacts on sensitive habitat and wetlands of south San Diego Bay would be significant.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not have a substantial adverse effect on riparian habitat and/or other sensitive natural communities or wetlands.</p>	LS	No mitigation is required.	N/A
Interference with Wildlife Movement	<i>Proposed New Fireworks Display Events</i>			
	<p>Impact-BIO-8: Potential Indirect Impact on Usage of Nursery Sites from Increased Human Activity. Indirect impacts on protected avian species from proposed new fireworks display events, such as increased foot traffic in or adjacent to nesting sites, increased human-generated trash, and noise associated with boating activity, are potentially a greater threat than direct impacts. While many nesting sites for California least tern and western snowy plover in San Diego Bay</p>	PS	Implement MM-BIO-1 and MM-BIO-2	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>are located behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts of proposed new fireworks display events on usage of nursery sites are considered potentially significant due to disturbance noted in nesting birds.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.</p>	LS	No mitigation is required.	N/A
<p>Conflicts with Local Policies or Ordinances Protecting Biological Resources/ Conflicts with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other Approved Local, Regional, or State Habitat Conservation Plan.</p>	<p><i>Proposed New Fireworks Display Events</i> Impact-BIO-9: Potential Conflict with the City of San Diego and Chula Vista MSCP Subarea Plans. The proposed new fireworks display events have the potential to result in significant direct and indirect impacts on habitat within the City of San Diego Multi-Habitat Planning Area and City of Chula Vista Multiple Species Conservation Program (MSCP) Preserve. Any impacts, whether direct or indirect, would be significant. Consequently, the proposed project would have the potential to conflict with the City of San Diego and City of Chula Vista MSCP Subarea Plans. Impact-BIO-10: Potential Conflict</p>	PS	Implement MM-BIO-1 and MM-BIO-2	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. The proposed new fireworks display events have the potential to result in direct and indirect impacts on sensitive habitat and green sea turtles present within the San Diego Bay National Wildlife Refuge, which would be considered significant. Consequently, the proposed project would have the potential to conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not conflict with applicable local policies or ordinances protecting biological resources, or with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.</p>	LS	No mitigation is required.	N/A
Cumulative Impacts				
Sensitive Habitat	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact-C-BIO-1: Cumulatively Considerable Accumulation of Trash and Debris in Upland and Marine Habitats. The proposed new fireworks display events have the potential to directly and indirectly contribute to a cumulatively considerable</p>	PS	Implement mitigation measures MM-BIO-1 and MM-BIO-2 .	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>accumulation of trash and debris in upland and marine habitats when combined with past, present, and reasonably foreseeable future projects.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative biological resources impacts, and therefore would not be cumulatively considerable.</p>			
4.4 Greenhouse Gas Emissions, Climate Change, and Energy				
Project Impacts				
<p>Direct and Indirect Generation of GHGs by 2020</p>	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not result in direct or indirect impacts related to the generation of greenhouse gases (GHGs) by 2020.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not result in direct or indirect impacts related to the generation of GHGs by 2020.</p>	LS	No mitigation is required.	N/A
<p>Effects from Climate Change on Project</p>	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not place people or structures at substantial risk of harm due to predicted climate change effects, including sea level rise.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not place people or structures at</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	substantial risk of harm due to predicted climate change effects, including sea level rise.			
Energy	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in the wasteful, inefficient, or unnecessary use of energy and would not require construction of new energy system infrastructure.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in the wasteful, inefficient, or unnecessary use of energy and would not require construction of new energy system infrastructure.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative GHG and energy impacts would not be cumulatively considerable.

4.5 Hazards and Hazardous Materials

Project Impacts

Routine Transport, Use, or Disposal of Hazardous Materials	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	on existing fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.			
Accidental Release of Hazardous Materials	<p><i>Proposed New Fireworks Display Events</i></p> <p>The proposed new fireworks display events would not create a significant hazard to the public or the environment through the release of hazardous materials associated with fireworks.</p>	LS	No mitigation is required.	N/A
	<p><i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i></p> <p>The effects of the proposed ordinance on existing fireworks display events would not create a significant hazard to the public or the environment through the release of hazardous materials associated with fireworks.</p>	LS	No mitigation is required.	N/A
Emergency Plans	<p><i>Proposed New Fireworks Display Events</i></p> <p>Implementation of the proposed new fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</p>	LS	No mitigation is required.	N/A
	<p><i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i></p> <p>The effects of the proposed ordinance on existing fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</p>	LS	No mitigation is required.	N/A

Cumulative Impacts

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
The contribution of the proposed new fireworks display event and the proposed ordinance to cumulative hazard and hazardous materials impacts would not be cumulatively considerable.				
4.6 Hydrology and Water Quality				
Project Impacts				
Water Quality Standards and Requirements	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not violate any water quality standards or waste discharge requirements.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not violate any water quality standards or waste discharge requirements.	LS	No mitigation is required.	N/A
Otherwise degrade water quality.	<i>Proposed New Fireworks Display Events</i>			
	<p>Impact-WQ-1: Surface Water Pollutant Related to Fireworks Debris. There is a potential for the proposed fireworks display events to pollute surface waters if fireworks debris is not properly recovered, which would be considered a significant impact.</p> <p>Impact-WQ-2: Surface Water Pollutant Related to Increased Human-Generated Trash and Litter. There is a potential for publicly advertised fireworks display events to pollute surface waters if increased human-generated trash and litter within the major public viewing areas is not properly disposed of and cleaned</p>	PS	<p>MM-WQ-1: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Fireworks Debris. The fireworks organizer and operator are required to comply with the following water quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <ol style="list-style-type: none"> 1. Chemical Composition. <ol style="list-style-type: none"> B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the 	<p>Impact-WQ-1: SU</p> <p>Impact-WQ-2: LS</p>

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	up, which would be considered a significant impact.		<p>satisfaction of the Executive Director that such alternative fireworks are not commercially available.</p> <ol style="list-style-type: none"> 2. Packaging. <ol style="list-style-type: none"> A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels from all fireworks to be used in the event. B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited. (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up: <ol style="list-style-type: none"> 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use. 2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.</p> <ol style="list-style-type: none"> 3. Wires from the electric match placed in the fireworks fuse shall be wrapped around nails that are installed on the racks to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event. 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway. 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning.</p> <p>7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment.</p> <p>8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.</p> <p>9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>photograph all trash and debris collected prior to its disposal.</p> <p>10. Within five (5) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p> <p>(i) Compliance with San Diego Water Board General Permit.</p> <ol style="list-style-type: none"> 1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit. 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>any permit issued by the Executive Director pursuant to this article.</p> <p>3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.</p> <p>(i) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.</p> <p>(j) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant’s failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p>	
			<p>MM-WQ-2: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter. The fireworks organizer and operator are required to comply with the following water quality-related condition of the proposed ordinance.</p>	
			<p>Section X.07 – Permits – Conditions of Approval</p>	
			<p>(f) Best Management Practices. Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p>	
			<p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks operator shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p>	
			<p><i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i></p>	
	<p>The effects of the proposed ordinance on existing fireworks display events would not degrade water quality</p>	<p>LS</p>	<p>No mitigation is required.</p>	<p>N/A</p>
<p>Create or Contribute Runoff Water</p>	<p><i>Proposed New Fireworks Display Events</i></p>			
	<p>The proposed new fireworks display events would not create or contribute runoff water that would exceed the</p>	<p>LS</p>	<p>No mitigation is required.</p>	<p>N/A</p>

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LS	No mitigation is required.	N/A
Cumulative Impacts				
Water Quality Standards and Requirements/ Stormwater Runoff/Water Quality	<p>Impact-C-WQ-1: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Debris. There is a potential that the proposed new fireworks display events could contribute to an accumulation of fireworks debris when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade surface water quality if fireworks debris is not properly recovered. Potential impacts on water quality would be cumulatively considerable.</p> <p>Impact-C-WQ-2: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Trash and Litter. There is a potential that the proposed</p>	PS	Implement MM-WQ-1 and MM-WQ-2 .	<p>Impact-C-WQ-1: SU</p> <p>Impact-C-WQ-2: LS</p>

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>new fireworks display events could contribute to an accumulation of trash and litter in San Diego Bay when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade water quality. Potential impacts on water quality would be cumulatively considerable.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative impacts related to hydrology and water quality, and therefore would not be cumulatively considerable.</p>	LS	No mitigation is required.	N/A
4.7 Land Use and Planning				
Project Impacts				
Land Use Plans, Policies, or Regulations	<i>Proposed New Fireworks Display Events</i>			
	<p>The proposed new fireworks display events would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable land use plan, policy, or regulation of an</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.			
Habitat Conservation Plan or Natural Community Conservation Plan	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display events and the proposed ordinance to land use impacts would not be cumulatively considerable.

4.8 Noise and Vibration

Project Impacts

Generate noise levels in excess of established standards	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not expose persons to or generate noise levels in excess of standards established in the applicable city of Imperial Beach, Chula Vista, and National City municipal codes.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not expose persons to or generate noise levels in excess of	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Temporary Increase in Ambient Noise Levels	standards established in the applicable city of Imperial Beach, Chula Vista, and National City municipal codes.		<p>MM-NOI-1: Implementation of Noise-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 1. Location. Fireworks display events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches. 2. Salutes. Fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display). 	SU
	<p><i>Proposed New Fireworks Display Events</i></p> <p>Impact NOI-1: Substantial Periodic or Temporary Increase in Ambient Noise Levels of the Proposed New Fireworks Display Events. For proposed new fireworks display events (both Fourth of July and non-Fourth of July events), these noise increases would occur at homes and the Grand Caribe Shoreline Park in the City of Coronado, west of the proposed National City and Chula Vista launch locations. Depending on the precise location of the proposed Chula Vista launch barge, substantial noise increases due to the proposed new Fourth of July fireworks display events may also occur at Loews Coronado Bay Resort. If the ultimate location of the launch barge for the proposed Chula Vista fireworks display event is closer to the Chula Vista Bayfront than was assumed in the analysis, then it is possible some significant impacts could also occur within the City of Chula Vista. Because the proposed new fireworks display events would occur at locations that do not currently have similar fireworks displays, the affected noise-sensitive receptors are not currently exposed to similar levels of fireworks noise and the impacts would be</p>			

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>significant. However, it is also noted that the impacts would be very infrequent (approximately three times per year) and would include the Fourth of July, which is a traditional nationwide event during which most people have a reasonable expectation and understanding that fireworks will occur.</p>			
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not cause or contribute to any increase in ambient noise levels.</p>	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display events and the proposed ordinance to noise impacts would not be cumulatively considerable.

4.9 Public Services and Facilities

Project Impacts

<p>Fire Protection and Emergency Services</p>	<i>Proposed New Fireworks Display Events</i>			
	<p>Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and emergency services.</p>	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	<p>The effects of the proposed ordinance</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.</p>			
Police Protection	<p><i>Proposed New Fireworks Display Events</i></p>			
	<p>Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.</p>	LS	No mitigation is required.	N/A
	<p><i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i></p>			
	<p>The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other</p>	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	performance objectives for police protection.			
Other Public Facilities	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for U.S. Coast Guard (USCG) protection services.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for USCG protection services.	LS	No mitigation is required.	N/A

Cumulative Impacts

The contribution of the proposed new fireworks display events and the proposed ordinance to cumulative public services and facilities impacts would not be cumulatively considerable.

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.10 Transportation, Circulation, and Parking				
Project Impacts				
Performance of the Circulation System	<i>Proposed New Fireworks Display Events</i>			
	The proposed new fireworks display events would not conflict with an applicable plan, ordinance, or policy establishing measures of performance of the circulation system.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable plan, ordinance, or policy establishing measures of performance of the circulation system.	LS	No mitigation is required.	N/A
Conflict with an applicable congestion management program	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not conflict with an applicable congestion management program including, but not limited to, level of service (LOS) standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Impacts would be less than significant.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable congestion management program including, but not limited to, LOS standards and travel demand measures,	LS	No mitigation is required.	N/A

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	or other standards established by the county congestion management agency for designated roads or highways. Impacts would be less than significant.			
Inadequate emergency access	<i>Proposed New Fireworks Display Events</i>			
	Implementation of the proposed new fireworks display events would not result in inadequate emergency access.	LS	No mitigation is required.	N/A
	<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>			
	The effects of the proposed ordinance on existing fireworks display events would not result in inadequate emergency access.	LS	No mitigation is required.	N/A
Conflict with Alternative Transportation	<i>Proposed New Fireworks Display Events</i>			
	Impact-TRA-1: Decrease in the Performance of Roadway, Pedestrian, and Bicycle Facilities from Proposed New Fireworks Display Events. The proposed new fireworks display events have the potential to temporarily decrease the performance of roadway, pedestrian, and bicycle facilities as a result of increased levels of vehicular, pedestrian, and bicycle activity. Potential impacts would be significant.	PS	MM-TRA-1: Implementation of the Transportation-Related Conditions of the Proposed Ordinance. The fireworks organizer is required to comply with the following transportation-related condition of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (h) Event Transportation and Parking Management Plans. For all Fourth of July fireworks display events and for non-Fourth of July fireworks display events that are advertised to the public, the fireworks organizer shall prepare and submit an event transportation and parking management plan to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The Event Transportation and Parking Management Plan	SU

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:</p> <ol style="list-style-type: none"> 1. Transportation management strategies, including but not limited to a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which shall be implemented for the fireworks display event; and 2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, offsite parking arrangements, designated areas for taxi and rideshare pick-up/drop-off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations. <p>(i) Compliance with Other Required Permits: Prior to the Executive Director’s issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state, and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city that has jurisdiction over all or any part of the activity allowed under said Permit.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	LS	No mitigation is required.	N/A
Insufficient Parking	<i>Proposed New Fireworks Display Events</i>			
	Impact-TRA-2: Inadequate Parking Supply During Proposed New Fireworks Display Events. The proposed new fireworks display events have the potential to result in a temporary inadequate supply during the displays due to an increased demand on parking facilities serving the viewing locations. Potential impacts would be temporary, but are considered significant.	PS	Implement MM-TRA-1 .	SU
<i>Effects of Proposed Ordinance on Existing Fireworks Display Events</i>				
	The effects of the proposed ordinance on existing fireworks display events would not result in an inadequate supply of parking.	LS	No mitigation is required.	N/A
Cumulative Impacts				
The contribution of the proposed new fireworks display event and the proposed ordinance to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable.				
Notes: PS = Potentially significant; LS = Less than significant; SU = Significant and Unavoidable; N/A = Not applicable				

1.1 Project Overview

The proposed San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (herein referred to as the proposed project) consists of (1) an ordinance establishing a San Diego Unified Port District (District) Code section (District Code section) to govern existing and proposed new fireworks display events that occur throughout the year in and around San Diego Bay and Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District. The most prominent existing fireworks display events are the annual Fourth of July Big Bay Boom in San Diego Bay, the Fourth of July Imperial Beach Fireworks Show over the Pacific Ocean near Imperial Beach, and the Fireworks Show Over Glorietta Bay. Other existing displays include those associated with the U.S.S. Midway Aircraft Carrier Museum (U.S.S. Midway Museum), General Dynamics National Steel and Shipbuilding Company (NASSCO), San Diego Symphony's Summer Pops concert series, and Our Lady of Rosary Church Annual Procession.

This environmental impact report (EIR) discusses the environmental baseline conditions and evaluates the potential environmental impacts of the proposed project. This Draft EIR assumes the continuation of existing fireworks display events at the same location and of the same magnitude and duration.

In addition to the project overview provided above, this chapter briefly discusses (1) the purpose of the California Environmental Quality Act (CEQA) and this Draft EIR, (2) the intended uses of this Draft EIR, (3) the scope and content of this Draft EIR, and (4) the organization of this Draft EIR.

1.2 Purpose of the California Environmental Quality Act and the Environmental Impact Report

This Draft EIR evaluates the potential environmental effects of the proposed project and has been prepared in compliance with CEQA (Public Resources Code Section 21000 et seq.) and the procedures for implementation of CEQA set forth in the State CEQA Guidelines (California Code of Regulations Title 14, Section 15000 et seq.). This Draft EIR has also been prepared in compliance with the District's *Guidelines for Compliance with CEQA* (Resolution 97-191; Clerk Document No. 36294).

CEQA was enacted by the California legislature in 1970. As noted under State CEQA Guidelines Section 15002, CEQA has four basic purposes:

1. Inform governmental decision-makers and the public about the potential significant environmental effects of proposed activities.

2. Identify the ways in which environmental damage can be avoided or significantly reduced.
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

An EIR is an informational document that is intended to inform members of the public and agency decision-makers of the significant environmental effects of a proposed project, to identify feasible ways to reduce the significant effects of the proposed project, and to describe a reasonable range of feasible alternatives to the project that would reduce one or more significant effects and still meet the proposed project's objectives. In instances where significant impacts cannot be avoided or mitigated, the proposed project may nonetheless be carried out or approved if the approving agency finds that economic, legal, social, technological, or other benefits outweigh the unavoidable significant environmental impacts.

1.3 Intended Uses of the Environmental Impact Report

This section discusses the intended uses of this Draft EIR and includes (1) a list of agencies that would be expected to use this Draft EIR for decision-making, and (2) a list of required permits and other approvals that would be required to implement the proposed project. Environmental review and consultation requirements under federal, state, or local laws, regulations, or policies that are in addition to CEQA are discussed in the applicable individual resource sections within Chapter 4, *Environmental Analysis*.

1.3.1 Lead Agency's Use of This Environmental Impact Report

The District is the CEQA lead agency, as defined under State CEQA Guidelines Section 15367, because it has principal responsibility for carrying out or approving fireworks display events, subject to the proposed ordinance. As the lead agency, the District also has primary responsibility for complying with CEQA. As such, the District has analyzed the environmental effects of the proposed project, the results of which are presented in this Draft EIR. The Board of Port Commissioners, in its role as the decision-making body of the District, is responsible for certifying the Final EIR and approving the Findings of Fact and Statement of Overriding Considerations pursuant to Sections 15090–15093 of the State CEQA Guidelines prior to project approval.

This EIR is intended to be an informational document to be used by the District's Board of Port Commissioners, public agencies, stakeholder organizations and individuals, and the general public during the decision-making process for the proposed project. In accordance with the State CEQA Guidelines and the District's *Guidelines for Compliance with CEQA* (Resolution 97-191; Clerk Document No. 36294), this EIR will inform readers of the potential significant environmental effects of the proposed project, identify possible means of minimizing the significant effects, and describe a range of reasonable alternatives to the proposed project. The Board of Port Commissioners will consider the EIR, along with other substantial evidence in the administrative record, when making a decision on the proposed project.

In order to certify this EIR, the Board of Port Commissioners must find that it has been completed in compliance with CEQA (Public Resources Code §21000 et seq.), the State CEQA Guidelines (14 CCR §15000 et seq.), and the District's *Guidelines for Compliance with CEQA* (Resolution 97-191; Clerk Document No. 36294) Section VI, and that all information contained in this EIR was considered prior to approval of the proposed project.

Table 1-1 provides a summary list of the approvals and permits that would be required.

Table 1-1. List of Required Discretionary Actions by the District

Discretionary Action
Certification of Final EIR
Adoption of Findings of Fact
Adoption of Statement of Overriding Considerations
Adoption of Mitigation Monitoring and Reporting Program
Adoption of an Ordinance Establishing a San Diego Unified Port District Code Section to Govern Fireworks Display Events

1.3.2 Other Agencies Expected to Use This Environmental Impact Report

The operation of fireworks display events may require permits and authorization by other agencies including, but not limited to, the following.

- National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Fish and Wildlife Service
- California Coastal Commission
- California Department of Fish and Wildlife
- California State Lands Commission
- San Diego Regional Water Quality Control Board
- City of Chula Vista Fire Department
- City of Coronado Fire Department
- City of Imperial Beach Fire Department
- City of National City Fire Department
- City of San Diego Fire Department

As defined under State CEQA Guidelines Section 15386, a trustee agency is a state agency that has jurisdiction by law over natural resources affected by a project that are held in trust for the people

of the state of California. The California State Lands Commission (CSLC) and California Department of Fish and Wildlife (CDFW) are trustee agencies, as defined in State CEQA Guidelines Section 15386. CSLC has jurisdiction and management control over those public trust lands of the state received by the state upon its admission to the United States in 1850. CSLC has jurisdiction over submerged lands within San Diego Bay that are not under the jurisdiction of the District. Several of the barges for the existing fireworks display events are situated within CSLC jurisdiction. However, because the barges are not anchored or moored, a lease or any other similar approval is not required from CSLC (Collins pers. comm.).

It is anticipated that CDFW may have an interest in the proposed project; however, CDFW would not issue approvals or permits that would be required to implement the proposed project. There are no other trustee agencies for the proposed project as defined in State CEQA Guidelines Section 15386.

1.3.3 Program-Level Analysis

This Draft EIR provides a program-level analysis of the proposed District Code section governing fireworks displays and the potential future occurrence of four new proposed fireworks display events adjacent to the National City and Chula Vista Bayfronts. Because no applications for approval of the four proposed new fireworks display events have been submitted, some project details for each of the proposed new fireworks display events are not available at the time of this Draft EIR's preparation. The EIR includes assumptions regarding the total pounds of fireworks, duration, shell size, time of year, and barge location for each of the proposed new fireworks display events. Therefore, if, in the future, an existing fireworks display event is modified or a new fireworks display event is proposed that is different from the type of event analyzed in this Draft EIR, the fireworks display event will be subject to additional environmental review pursuant to State CEQA Guidelines Section 15168(c).

1.4 Scope and Content of the Draft Environmental Impact Report

As the CEQA lead agency, the District is responsible for determining the scope and content of this Draft EIR, a process referred to as "scoping." As part of the scoping process, the District considered the environmental resources present within the project area and in the surrounding areas and identified the potential environmental effects of the proposed project. To initiate the public scoping process for this Draft EIR, the District circulated a Notice of Preparation (NOP) in accordance with Section 15082 of the State CEQA Guidelines to solicit agency and public comments on the scope and content of the environmental analysis to be included in the Draft EIR. The 30-day public review period for the NOP began on August 7, 2015, and ended on September 8, 2015. The NOP was mailed to public agencies, organizations, and other interested individuals to solicit their comments on the scope and content of the environmental analysis. The District also held a public scoping meeting on August 25, 2015, at the District's Administration Building at 3165 Pacific Highway, San Diego, CA, 92101. Free public parking was available at the surface lot in front of the building, as well as adjacent to the building. Comments received in response to the NOP and during the public scoping meeting were used to determine the scope of this Draft EIR. The comments are summarized in Table 1-2, below. Based on the District's preliminary evaluation of the probable effects of the proposed

project and a thorough review of the comments on the NOP, the Draft EIR analyzes effects associated with the following resources:

- Aesthetics and Visual Resources
- Air Quality and Health Risk
- Biological Resources
- Greenhouse Gas Emissions, Climate Change, and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services and Facilities
- Transportation, Circulation, and Parking

There are no agricultural, forestry, or mineral resources within the project area; therefore, the proposed project would not have an adverse effect on any of these resources. In addition, the proposed project would not have a significant adverse effect on cultural resources, geology and soils, population and housing, recreational facilities, or utilities and service systems. Chapter 6, *Additional Consequences of Project Implementation*, includes a brief analysis as to why impacts on agricultural and forestry resources, mineral resources, cultural resources, geology and soils, population and housing, recreational facilities, and utilities and service systems would not be significant, as discussed in the Initial Study/Environmental Checklist included in Appendix A of this Draft EIR.

1.4.1 Comments Received in Response to the Notice of Preparation

Several specific environmental issues were raised in the comments on the NOP. A summary of these comments and the sections where they are addressed in this Draft EIR are provided in Table 1-2. Only comments that pertain to the environmental scope of this Draft EIR are summarized. Copies of all NOP comment letters are provided in Appendix B of this Draft EIR and the NOP is included in Appendix A.

Table 1-2. Summary of NOP Comments Received

Commenter	Environmental Topic(s)	Location Where Addressed in This Draft EIR
State of California, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit (SCH), August 7, 2015	Provides SCH# 2015081013 and notes which state agencies received a copy of the NOP.	N/A
California Department of Transportation (Caltrans), District 11, Jacob M. Armstrong, August 14, 2015	Any special events that may affect traffic on state facilities should be reviewed by Caltrans.	Section 4.11, <i>Transportation, Circulation, and Parking</i> Appendix J, <i>Transportation Assessment</i>
	An encroachment permit should be issued for any traffic control or management within Caltrans' right of way.	Section 4.11, <i>Transportation, Circulation, and Parking</i> Appendix J, <i>Transportation Assessment</i>
Federal Emergency Management Agency, Region 9, Gregor Blackburn, August 24, 2015	Review the current effective countywide Flood Insurance Rate Maps for the County of San Diego (Community Number 060284) and City of San Diego (Community Number 06029), May 16, 2012.	Section 4.7, <i>Hydrology and Water Quality</i> Appendix G, <i>Water Quality Technical Report</i>
	The City of San Diego, San Diego County, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.	Section 4.7, <i>Hydrology and Water Quality</i> Appendix G, <i>Water Quality Technical Report</i>
	Many NFIP participating communities have adopted floodplain management building requirements that are more restrictive than the minimum federal standards described in 44 CFR. Contact the local community's floodplain manager for more information on local floodplain management building requirements.	Section 4.7, <i>Hydrology and Water Quality</i> Appendix G, <i>Water Quality Technical Report</i>
California Department of Fish and Wildlife, Region 5, Gail K. Sevrens, September 8, 2015	Concern with the potential direct and indirect effects of fireworks displays and the associated human disturbances on sensitive species that occur in and around the project area, including marine mammals, sea turtles, seabirds, shorebirds, and passerines.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	Summarize results from past studies that have monitored wildlife responses to fireworks displays and the recommendations offered to avoid, minimize, or mitigate the effects on these species.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>

Commenter	Environmental Topic(s)	Location Where Addressed in This Draft EIR
	A comprehensive mitigation strategy should include developing a monitoring protocol for those sites determined to be most likely affected by fireworks displays.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The National Marine Fisheries Service document provides a useful resource on the types of effects analyses that should be incorporated into the Draft EIR.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	Commenter suggests the inclusion of a number of different figures.	Chapter 3, <i>Project Description</i> Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The impact analysis should define the area where sound, light, and debris effects have a direct impact on wildlife and associated habitats.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The analysis should also define the distance that impacts can extend beyond the center of the detonation point.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	Recommends that the detonation structures be located as far from sensitive resource use areas as possible to reduce the effects of noise, light, fall-out, and/or human intrusion on sensitive wildlife species.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The District should also consider altered habitat conditions when determining future locations of the fireworks detonation sites.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	Evaluate the potential cumulative impacts on wildlife species of repeated nightly exposure from fireworks displays.	Chapter 5, <i>Cumulative Impacts</i>
	To avoid impacts on eelgrass meadows it is recommended that the District institute patrols or other methodologies to prohibit spectator motorized watercraft from entering these sensitive areas.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The Draft EIR should provide a thorough analysis of the need for an increase in the number of fireworks display events.	Chapter 3, <i>Project Description</i>
	Recommends consideration of an alternative that would set a limit on the number of events that can occur and/or reduces the number of events below what is currently allowed.	Chapter 7, <i>Alternatives to the Proposed Project</i>

Commenter	Environmental Topic(s)	Location Where Addressed in This Draft EIR
	The Draft EIR should include mitigation measures for all adverse project-related impacts on sensitive animals and habitats. Mitigation measures should emphasize avoidance and reduction of project impacts.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
California State Lands Commission, Cy R. Oggins, September 8, 2015	A thorough and complete project description should be included in the Draft EIR to facilitate meaningful environmental review of potential impacts, mitigation measures, and alternatives.	Chapter 3, <i>Project Description</i>
	Specific locations for firework discharge should be identified, as well as the estimated radius of potential chemicals.	Chapter 3, <i>Project Description</i> ; Section 4.2, <i>Air Quality and Health Risk</i> ; Section 4.7, <i>Hydrology and Water Quality</i> Appendix G, <i>Water Quality Technical Report</i>
	The Draft EIR should evaluate the levels of chemical residues, including perchlorate, nitrate, and sulfur, that could be discharged into waters of the U.S./state on an annual basis due to the fireworks displays.	Section 4.7, <i>Hydrology and Water Quality</i> Appendix G, <i>Water Quality Technical Report</i>
	Staff requests that mitigation be included to address surface debris cleanup by a boat crew the night of a fireworks show, surface and underwater cleanup by a boat crew and divers, and foot patrols to hunt for debris on area beaches.	Section 4.7, <i>Hydrology and Water Quality</i> Appendix G, <i>Water Quality Technical Report</i>
	The Draft EIR should disclose and analyze all potentially significant effects (such as noise, water quality, and increases to light/glare) on sensitive species and habitats in and around the project area, including special-status wildlife, fish, and plants, and if appropriate identify feasible mitigation.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The District should conduct queries of the California Department of Fish and Wildlife's California Natural Diversity Database to identify any special-status plant or wildlife species that may occur in the project area.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The Draft EIR should also include a discussion of consultation with the CDFW and USFWS, including any recommended mitigation measures and potentially required permits identified by these agencies.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	A greenhouse gas (GHG) emissions analysis consistent with the California Global Warming Solutions Act (Assembly Bill 32) and required by the State CEQA Guidelines should be included in the Draft EIR.	Section 4.4, <i>Greenhouse Gas Emissions, Climate Change, and Energy</i>

Commenter	Environmental Topic(s)	Location Where Addressed in This Draft EIR
	The GHG analysis should identify a threshold of significance for GHG emissions, quantify the direct and indirect operational GHG emissions from the project, determine the significance of the impacts of those emissions, and, if impacts are significant, identify mitigation measures that would reduce them to the extent feasible.	Section 4.4, <i>Greenhouse Gas Emissions, Climate Change, and Energy</i>
	To avoid the improper deferral of mitigation, mitigation measures should either be presented as specific, feasible, enforceable obligations, or should be presented as formulas containing performance standards that would mitigate the significant effects of the project and that may be accomplished in more than one specified way.	Throughout EIR
	The District should identify and analyze a range of reasonable alternatives to the proposed project that would attain most of the project objectives while avoiding or reducing one or more of the potentially significant impacts.	Chapter 7, <i>Alternatives to the Proposed Project</i>
U.S. Fish and Wildlife Service, Region 8, Karen A. Goebel, October 6, 2015	Include in the Draft EIR a thorough review of the available literature pertaining to the potential or documented impacts of fireworks displays or similar punctuated disturbances on wildlife.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	Commenter suggests the inclusion of a number of different figures.	Throughout EIR
	Recommends that the Draft EIR include information regarding the abundance and distribution of water birds that use San Diego Bay, Tijuana Estuary, and Imperial Beach.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	Include in the Draft EIR detailed information regarding the number, location, and duration of baseline events that have occurred in recent years, and the number, location and duration of additional proposed events.	Chapter 3, <i>Project Description</i>
	The Draft EIR should include an analysis of the intensity and extent of light, sound, vibration, and debris/fallout anticipated as a result of the fireworks displays, based on the size and number of fireworks shells that will be used.	Section 4.1, <i>Aesthetics and Visual Resources</i> ; Section 4.2, <i>Air Quality and Health Risk</i> ; Section 4.8, <i>Noise and Vibration</i>
	The analysis of the effects of the proposed action should include an assessment of the areas where light, sound, vibration, and debris are expected to have a direct impact on wildlife.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>

Commenter	Environmental Topic(s)	Location Where Addressed in This Draft EIR
	The Draft EIR should include an analysis of the potential indirect effects of the fireworks displays on wildlife resources in the project area including, but not limited to, disturbance of or impacts on resources from spectators, and changes in water quality associated with debris or fallout from fireworks.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The Carlsbad Fish and Wildlife Office has previously recommended, and continues to recommend, that no fireworks displays occur within the Chula Vista Bayfront during the avian breeding season due to the close proximity to the abundance of sensitive wildlife resources that occur within and around the Sweetwater National Wildlife Refuge, the South San Diego Bay National Wildlife Refuge, and the Chula Vista Wildlife Reserve.	Chapter 3, <i>Project Description</i> ; Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	Recommended and continues to recommend that fireworks displays be minimized at the Loew's Coronado Resort during the avian breeding season due to the proximity of this hotel to protected least tern and snowy plover habitat at Silver Strand State Beach and Naval Base Coronado.	Chapter 3, <i>Project Description</i> ; Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The Draft EIR should include conservation measures to avoid and minimize the potential impacts of the project on sensitive wildlife.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>
	The Draft EIR should analyze the need for an increased number of fireworks displays.	Chapter 3, <i>Project Description</i> , and throughout EIR
	Recommends that the District consider limiting the number of fireworks displays that may occur throughout the year at approved launch sites.	Chapter 7, <i>Alternatives to the Proposed Project</i>
Coast Law Group, LLP, Sara S. Kent, September 23, 2015	A summary of substantial evidence of potentially significant water and air quality impacts from fireworks displays in the city of San Diego. Cites extracts from a number of documents that support the contention that fireworks discharges over water have the potential to cause significant environmental harm and affect water and air quality. These include, among others, the Draft Clean Water Act permit (federal and state); the Coastal Environmental Rights Foundation's comment letter dated April 11, 2011, to the San Diego Regional Water Quality Control Board (SDRWQCB) regarding Tentative Order No. R9-2011-0022; and an SDRWQCB report dated	Section 4.2, <i>Air Quality and Health Risk</i> Section 4.6, <i>Hydrology and Water Quality</i> Appendix G, <i>Water Quality Technical Report</i>

Commenter	Environmental Topic(s)	Location Where Addressed in This Draft EIR
	December 12, 2007, regarding a Sea World National Pollutant Discharge Elimination System permit amendment to establish water discharge requirements for discharges of waste from aerial fireworks displays into Mission Bay.	
	Provides a summary of substantial evidence of potentially significant wildlife impacts from fireworks displays in the city of San Diego. Includes extracts from a number of documents, including, among others, emails from Robert Patton to Richard Gilb regarding California least tern fireworks monitoring; newspaper articles linking black bird deaths to fireworks; applications for permits for small takes of marine mammals incidental to the launching of space launch vehicles, long-range ballistic missiles, and smaller missile systems at Kodiak Launch Complex, Alaska; and guidelines for managing fireworks in the vicinity of piping plovers and seabeach amaranth on the U.S. Atlantic coast.	Section 4.3, <i>Biological Resources</i> Appendix F, <i>Biological Technical Study</i>

1.5 Organization of the Draft EIR

The content and format of this Draft EIR are designed to meet the requirements of CEQA and State CEQA Guidelines Article 9. Table 1-3 summarizes the organization and content of the Draft EIR.

Table 1-3. Document Organization and CEQA Requirements

Draft EIR Chapter	Contents
Summary	Includes a brief summary of the proposed project; identifies each significant effect, including proposed mitigation measures and alternatives to reduce or avoid the effect; identifies the areas of controversy known to the lead agency, including issues raised by agencies and the public; and summarizes the issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects (State CEQA Guidelines Section 15123).
Chapter 1 Introduction	Discusses the purpose of CEQA and this Draft EIR, the scope and content of this Draft EIR, the organization of this Draft EIR, and the intended uses of this Draft EIR (State CEQA Guidelines Section 15124(d)).
Chapter 2 Environmental Setting	Describes the overall existing physical conditions in the vicinity of the proposed project when the analysis was initiated, including existing fireworks display events that presently occur in and around San Diego Bay and the Imperial Beach Oceanfront. In addition, the specific existing conditions for each resource area are described in the applicable resource section in Chapter 4, <i>Environmental Analysis</i> (State CEQA Guidelines Section 15125).

Draft EIR Chapter	Contents
Chapter 3 Project Description	Contains both a map of the precise location and boundaries of the proposed project and its location relative to the region, lists the proposed project's central objectives and underlying purpose, and provides a detailed description of the proposed project's characteristics (State CEQA Guidelines Section 15124(a), (b), and (c)).
Chapter 4 Environmental Analysis	Describes the existing physical conditions for each resource area, lists the applicable laws and regulations germane to the specific resource, describes the impact assessment methodology, lists the criteria for determining whether an impact is significant, identifies the direct and indirect significant impacts that would result from implementation of the proposed project, and lists feasible mitigation measures that would eliminate or reduce the identified significant impacts (State CEQA Guidelines Sections 15125–15126.4).
Chapter 5 Cumulative Impacts	Defines the cumulative study area for each resource; identifies past, present, and reasonably foreseeable future projects with related impacts within each study area; and evaluates the contribution of the proposed project to a cumulatively significant impact. This chapter also lists feasible mitigation measures that would eliminate or reduce the identified significant cumulative impacts (State CEQA Guidelines Section 15130).
Chapter 6 Additional Consequences of Project Implementation	Discusses the way the proposed project could foster economic or population growth, either directly or indirectly, in the surrounding environment; describes the significant irreversible changes associated with the proposed project's implementation; and provides a brief discussion of the environmental resource impacts that were found to be not significant during preparation of this Draft EIR (State CEQA Guidelines Sections 15126.2(c) and (d), 15127, and 15128).
Chapter 7 Alternatives to the Proposed Project	Describes a reasonable range of alternatives to the proposed project, including the No-Project Alternative; compares and contrasts the significant environmental impacts of alternatives to the proposed project; and identifies the environmentally superior alternative (State CEQA Guidelines Section 15126.6).
Chapter 8 List of Preparers and Agencies Consulted	Lists the individuals and agencies involved in preparing this Draft EIR (State CEQA Guidelines Section 15129).
Chapter 9 References	Provides a comprehensive listing by chapter of all references cited in this Draft EIR (State CEQA Guidelines Section 15148).
Acronyms and Abbreviations	A list of acronyms and abbreviations is provided for the reader's reference immediately following the list of tables and figures in the Table of Contents.
Appendices	Presents additional background information and technical detail for several of the resource areas.

2.1 Introduction

This chapter provides a description of the overall physical environmental conditions in the vicinity of the proposed project, from both a local and regional perspective, as they existed at the time the Notice of Preparation was published on August 7, 2015.¹ Resource-specific existing conditions are described within each individual resource section of Chapter 4, *Environmental Analysis*. Chapter 4 also describes any inconsistencies with applicable plans.²

2.2 Regional Context

Existing public fireworks displays (also referred to as fireworks shows or events) are conducted throughout the year at various locations within the San Diego region, including areas adjacent to and within the District's jurisdiction, as part of national and community celebrations and other special events. Such existing displays have occurred on a regular basis for decades.

In addition to existing fireworks display events that occur within San Diego Bay and in the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants, landside and waterside fireworks display events also occur during regular activities and special events at other locations throughout the San Diego region, including entertainment theme parks and major league football and baseball stadiums. Additionally, fireworks displays and pyrotechnic special effects are periodically used in other venues, such as business grand openings and special events, public and private school homecoming and graduation events, sporting events, and local fairs. The most significant and widespread use of fireworks displays is primarily for Fourth of July celebrations. In addition, fireworks displays occur for other occasions throughout the year, such as events at SeaWorld, La Jolla Cove, Ocean Beach, San Ysidro, National City (Kimball Park), and Chula Vista (Olympic Training Center). The preferred setting for fireworks display sites is often on or adjacent to urban shorelines to provide public access and avoid the potential public safety and fire hazards associated with terrestrial display sites.

The proposed project is an ordinance that would govern existing and proposed new fireworks display events located in southwestern San Diego County adjacent to or within District-controlled areas that are surrounded by the incorporated cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach, all of which compose the District's member cities. The City of San Diego,

¹ State CEQA Guidelines Section 15125 states that an EIR must include "a description of the physical environmental conditions in the vicinity of the proposed project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will *normally* constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the significant effects of the proposed project and its alternatives" (emphasis added).

² For example, Section 4.2, *Air Quality and Health Risk*, contains a project consistency analysis with the applicable air quality plans.

which is the largest city in the region and within proximity to the fireworks display events, covers approximately 323 square miles and is home to an estimated population of approximately 1.37 million residents (SANDAG 2015). The City of San Diego is approximately 17 miles north of the U.S.-Mexico border and is bordered on the north by the cities of Del Mar and Poway and unincorporated San Diego County land; on the east by the cities of Santee, El Cajon, La Mesa, and Lemon Grove, and unincorporated County of San Diego land; to the south by the cities of Coronado, Chula Vista, and National City, and the U.S.-Mexico border; and to the west by the Pacific Ocean. The neighborhoods of the City of San Diego that are in the vicinity of the fireworks display events within San Diego Bay include Point Loma to the north (adjacent to Shelter Island), downtown San Diego, which includes Little Italy (adjacent to Harbor Island and North Embarcadero), and Barrio Logan, which is south and east of the South Embarcadero.

Across San Diego Bay from downtown San Diego, the City of Coronado is a small resort city of almost 14 square miles with approximately 24,000 residents (SANDAG 2015). Coronado is bordered on the north and east by San Diego Bay (and the City of San Diego beyond that) and on the south by the City of Imperial Beach, which connects to Coronado via the narrow strip of land known as the Silver Strand that is a part of the incorporated area of Coronado. The Pacific Ocean borders Coronado to the west.

National City is 5 miles south of downtown San Diego, on San Diego Bay, and 10 miles north of the U.S.-Mexico border. National City is bordered by the City of San Diego to the north and east, Chula Vista to the south, the unincorporated areas of Lincoln Acres and Bonita to the south and southeast, and San Diego Bay to the west. National City comprises approximately 9.2 square miles and has an estimated population of approximately 60,000 residents (SANDAG 2015).

Chula Vista is the second-largest city in San Diego County, with an area of approximately 52 square miles and a population of approximately 258,000 residents (SANDAG 2015). It is 7.5 miles from downtown San Diego and 7.5 miles from the U.S.-Mexico border. Chula Vista is bordered on the north by the cities of San Diego and National City and the unincorporated community of Bonita; to the north and east by unincorporated areas of San Diego County; and on the south by the City of San Diego. San Diego Bay borders Chula Vista to the west.

The City of Imperial Beach is a beach community in the southwestern-most corner of the continental United States and is bordered on the north by the City of Coronado and San Diego Bay, on the east by the City of San Diego, on the west by the Pacific Ocean, and on the south by the U.S.-Mexico border. It is a city of approximately 4.5 square miles with a population of approximately 27,000 residents (SANDAG 2015).

2.2.1 District

The mission of the District is to protect Tidelands Trust resources by providing economic vitality and community benefit through a balanced approach to maritime industry, tourism, water and land recreation, environmental stewardship, and public safety. The District was created with the San Diego Unified Port District Act (Port Act), adopted by the California State Legislature in 1962, as amended. The Port Act recognizes the Public Trust Doctrine and states that tidelands and submerged lands are to be used only for statewide public purposes. To this end, the District is charged with management of the tidelands and diverse waterfront uses along San Diego Bay that promote commerce, navigation, fisheries, recreation, and ecological preservation on the granted lands.

The District is one of several governmental agencies with jurisdiction over the land and water areas of San Diego Bay. The area of San Diego Bay encompassed by the historic mean high tide line amounts to approximately 14,951 acres of filled and submerged lands and an existing shoreline of approximately 54.01 miles in length (District 2015). These historic tideland areas are owned or controlled by the federal government, the State of California, local governments, and the District. Specifically, the District has been granted approximately 5,483 acres, or about 37 percent, of the tidelands on San Diego Bay. The shoreline frontage granted to the District approaches 33 miles, which is equivalent to 61 percent of the total San Diego Bay shoreline. Locations on San Diego Bay and the Imperial Beach Oceanfront in which fireworks display events currently occur and are proposed to occur are detailed below.

2.3 Existing Setting

2.3.1 Existing Fireworks Display Events

A number of existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants occur year-round; however, the greatest number of fireworks display events occurs in the summer months from July to September. A list of existing fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach annually is provided in Table 2-1 below. A detailed description of these existing fireworks display events is provided below.

All of the existing fireworks display events identified in Table 2-1 are subject to applicable federal laws set forth in the Code of Federal Regulations, which are enforced by the U.S. Coast Guard (only for fireworks display events occurring within Navigable Waters of the U.S.), as well as state and local laws set forth in the California Department of Forestry and Fire Protection's *Fireworks in California* handbook (Appendix C), which are enforced by the responsible city fire department with jurisdiction over each fireworks display event. These fireworks display events are also conducted in accordance with the requirements of the San Diego Regional Water Quality Control Board's (SDRWQCB's) General Permit for Public Display of Fireworks (Order No. R9-2011-0022) (General Permit). The General Permit is discussed in more detail in Section 4.6, *Hydrology and Water Quality*, of this EIR and is included as Appendix G.

Table 2-1. Existing Fireworks Display Events Requiring a Discretionary Action by the District or Operated by the District’s Tenants

Time of Year	Approximate Number of Fireworks Display Events	Fireworks Display Event Tenant/Sponsor	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event (minutes)	Approximate Shell Size (inches)
January–March	7	<ul style="list-style-type: none"> U.S.S. Midway (7) 	<ul style="list-style-type: none"> North Embarcadero¹ 	4–10	2–6 inch
April–June	8	<ul style="list-style-type: none"> Symphony Summer Pops (1) NASSCO (1) U.S.S. Midway (6) 	<ul style="list-style-type: none"> South Embarcadero² NASSCO 	3–10	2–6-inch
July–September	29	<ul style="list-style-type: none"> Symphony Summer Pops (19) Big Bay Boom (1) Fourth of July Imperial Beach (1) Fireworks Show Over Glorietta Bay (1) U.S.S. Midway (6) NASSCO (1) 	<ul style="list-style-type: none"> Shelter Island³ Harbor Island³ North Embarcadero^{4,3} Central Embarcadero³ South Embarcadero² Glorietta Bay⁴ NASSCO Imperial Beach Oceanfront⁴ 	15–20 (Fourth of July) and 3–10 (non-Fourth of July displays)	3–10-inch (larger displays [e.g., Fourth of July]) 2–6-inch (non-Fourth of July displays)
October–December	5	<ul style="list-style-type: none"> U.S.S. Midway (4) Our Lady of Rosary Church (1) 	<ul style="list-style-type: none"> North Embarcadero^{1,5} 	3–10 (intermittently during the 80-minute procession for Our Lady of Rosary Church Annual Procession)	2.5–6 inch
TOTAL	49				

Notes:

- ¹ U.S.S. Midway Museum (includes a total of 23 annual fireworks display events)
- ² Symphony Summer Pops concert display (includes a total of 20 annual fireworks display events)
- ³ Big Bay Boom, Fourth of July
- ⁴ Fourth of July display
- ⁵ Our Lady of Rosary Church Annual Procession

Table 2-2 summarizes the total pounds of fireworks used for each existing fireworks display event. The total pounds of fireworks for the Big Bay Boom, Fireworks Show Over Glorietta Bay, Fourth of July Imperial Beach Fireworks Show, San Diego Symphony Summer Pops concert displays, Our Lady of Rosary Church Annual Procession fireworks display event, and any fireworks displays associated with the U.S.S. Midway Aircraft Carrier Museum (U.S.S. Midway Museum) (multiple small shows) and General Dynamics National Steel and Shipbuilding Company (NASSCO) were determined through a review of the post-event reports submitted in compliance with SDRWQCB's General Permit for these displays, special event permits obtained from the District's five member cities, and data collected from the fireworks organizers, fireworks operators, and/or District tenants.

Table 2-2. Summary of Activity Associated with the Existing Fireworks Display Events

Fireworks Display Event	Day of Event	No. of events (2015)	Pounds of Fireworks per Event	Pounds of Fireworks Annually	No. of barges used per event
Big Bay Boom	Fourth of July	1	5,342	5,342	4
Fireworks Over Glorietta Bay Show	Fourth of July	1	397	397	1
Fourth of July Imperial Beach Fireworks Show	Fourth of July	1	456	456	0
Symphony Summer Pops Concert Display	non-Fourth	20	varies between 52.6 to 95 ¹	1,498 ¹	1
Our Lady of Rosary Church Annual Procession	non-Fourth of July	1	17.25	17.25	0
U.S.S. Midway Museum	non-Fourth of July	23	varies between 7.8 and 234.9	1,759	1 ²
General Dynamics NASSCO Ship Repair Facility	non-Fourth of July	2	157.5 and 281.6	439	0 ³

Source: SDRWQCB 2015; District 2016

Notes:

¹ Pounds of fireworks for the Symphony Summer Pops events for year 2015 was obtained from the fireworks organizer. The largest shows (95.0 pounds per show) were three shows during Labor Day weekend. The remaining 17 shows throughout the year are smaller (between 52.6 and 78.8 pounds per show), and all shows average 74.9 pounds per show (74.9 x 20 = 1,498).

² Fireworks for displays on the U.S.S. Midway Museum are detonated either off of a barge in San Diego Bay or off the end of flight deck of the Midway.

³ Fireworks for these displays are launched from the end of Pier 12.

Existing Fourth of July Fireworks Display Events

The following existing Fourth of July fireworks display events either currently require a discretionary action or are anticipated to require a discretionary action by the District.

Big Bay Boom

The Big Bay Boom is a large, multi-barge outdoor fireworks display event that takes place in North San Diego Bay on the Fourth of July. The District considers annually whether or not to provide event sponsorship for this free fireworks display event, which was first established in 2001. Given the

natural amphitheater provided by the various neighborhoods, parks, and commercial centers surrounding San Diego Bay, including Point Loma, Shelter Island, Harbor Island, Liberty Station, Little Italy, North Embarcadero, Central Embarcadero, South Embarcadero, and the Coronado Ferry Landing, the Big Bay Boom is viewed by thousands of people annually. In addition, other private viewing locations are available at the U.S.S. Midway Museum, Hornblower Cruises and Events, Flagship Cruises and Events, and the San Diego Maritime Museum.

This fireworks display event entails the strategic temporary placement of four barges (moved and held in place by tugboats) around San Diego Bay near Central Embarcadero, North Embarcadero, Harbor Island, and Shelter Island and does not require construction of any on-land support facilities. The barges are not moored and instead are held in place by tugboats at their designated locations. During the fireworks display event, the U.S. Coast Guard (USCG), San Diego Fire Department (SDFD), San Diego Harbor Police Department (HPD), and special patrol vessels provide safety on the water, while HPD and San Diego Police Department provide traffic coordination and public safety on land. The fireworks display event lasts approximately 18 minutes, after which the barges are removed and, once the Fire Marshal has determined it is safe to do so, cleanup is conducted. A detailed description of barge setup, preparation, and cleanup practices is provided below.

Barge Setup and Preparation

Preparation of this fireworks display event includes placing fireworks on barges, which are set up primarily by the fireworks operator at a loading facility yard in accordance with the special event permits issued by SDFD and under supervision by governing fire officials. The barges are inspected for safety issues by the Fire Marshal and fireworks operator. The fireworks, which are encased in paper, are then loaded onto the barges in their California Department of Transportation (Caltrans)-approved shipping cartons by the fireworks operator. An electric match is placed in the fireworks fuse, and the wire from the match is wrapped around nails to prevent the wires from being pulled into the air. Once the fireworks are prepared, all debris, including water bottles, paper wrappers, cardboard shipping boxes, fuses, wires, and wrapping, is removed from the barges and properly disposed of by the fireworks operator. The barges are then moved by tugboats to their designated locations. After reaching their designated locations, the barges are held in place by tugboats and a safety exclusion zone is established around each barge by USCG and/or the Fire Marshal, as appropriate. Public access is prohibited in this zone, and neither spectators nor occupied vessels not transporting fireworks technicians are allowed within the area until the Fire Marshal determines it is safe to do so after the conclusion of the fireworks display event.

Post-Fireworks Display Event Cleanup Practices

Once the fireworks display event is over, the fireworks operator and the Fire Marshal inspect the mortars and surrounding areas for any safety issues, such as unexploded firework components, in accordance with the requirements of Title 19 of the California Code of Regulations (CCR). The duration of this inspection varies but historically has been approximately 15 to 20 minutes. All unexploded fireworks on the barges are collected, handled, and disposed of by the fireworks operator in accordance with Title 19 of the CCR. No one is allowed into the safety zone until granted permission by the Fire Marshal (Perry pers. comm.). Once the site is cleared by the Fire Marshal, and consistent with the requirements of the General Permit, the fireworks operator focuses on picking up large debris on the barge to prevent it from blowing into the water. The barges are brought back into the loading/setup yard facility to be further cleaned and have the mortars removed by the fireworks operator. In addition, as soon as permission is granted by the Fire Marshal, and consistent

with the requirements of the SDRWQCB General Permit, the fireworks organizer and fireworks operator conduct a sweep of the fireworks detonation zone surrounding each of the four barges to gather and properly dispose of floating debris from spent fireworks. Any unexploded fireworks, including unexploded components, are collected, handled, and disposed of by the fireworks operator. Consistent with the SDRWQCB General Permit requirements, the fireworks detonation zone and shoreline areas adjacent to the four barge locations are inspected again for debris no later than 24 hours following the fireworks display event by the fireworks organizer. Any cardboard, paper, or other debris is removed. A contractor is also hired to pick up any litter left in the District's public parks beginning at midnight on the Fourth of July.

Fourth of July Imperial Beach Fireworks Show

The Fourth of July Imperial Beach Fireworks show is a small, single-location outdoor fireworks display event that takes place within the District's Coastal Development Permit jurisdiction in Imperial Beach on the Fourth of July. The District considers annually whether or not to provide event sponsorship for this free fireworks display event, which was first established in the early 2000s. Primary viewing locations for this event are from Portwood Pier Plaza, Dunes Park, and along the beach from Palm Avenue to Imperial Beach Boulevard. Thousands of people directly view this fireworks display event.

For this fireworks display event, fireworks are launched over the Pacific Ocean in Imperial Beach from the Imperial Beach Pier (Pier). During the fireworks display event, the City of Imperial Beach and San Diego County Sheriff's Department provide traffic coordination and public safety on land. The fireworks display event lasts approximately 18 minutes. After completion of the fireworks display event, and once the Fire Marshal has determined it is safe to do so, cleanup is conducted. A detailed description of Pier setup, preparation, and cleanup practices is provided below.

Pier Setup and Preparation

The fireworks display event on the Pier is set up primarily by the fireworks operator in accordance with the requirements of Title 19 of the CCR and is subject to review by the Imperial Beach Fire Department. Public access on the Pier is restricted beginning on the evening of July 3 and ending on the morning of July 5 to facilitate rack installation, occurrence of the fireworks display event, and cleanup after the fireworks display event. The Pier is inspected for safety issues by the Fire Marshal and fireworks operator, and fireworks are loaded onto the Pier in their Caltrans-approved shipping cartons onto racks by the fireworks operator. The wires used to trigger the fireworks are secured to the racks to prevent the wires from being pulled into the air. Once the fireworks are prepared, all debris, including water bottles, paper wrappers, cardboard shipping boxes, fuses, wires, and wrapping, is removed from the Pier and properly disposed of by the fireworks operator. A minimum safety zone is established around the Pier by USCG and/or the Fire Marshal, as appropriate. Public access is prohibited in this zone, and neither spectators nor occupied vessels not transporting fireworks technicians are allowed within the area until the Fire Marshal determines it is safe to do so after the conclusion of the fireworks display event.

Post-Fireworks Display Event Cleanup Practices

Once the fireworks display event is over, the fireworks operator and the Fire Marshal inspect the mortars and surrounding areas for any safety issues, such as unexploded firework components, in accordance with Title 19 of the CCR. The duration of this inspection varies but historically has been approximately 15 to 20 minutes. All unexploded fireworks on the Pier are collected, handled, and

disposed of by the fireworks operator in accordance with Title 19 of the CCR. No one is allowed into the safety zone until granted permission by the Fire Marshal. Once the site is cleared by the Fire Marshal, and consistent with the requirements of the SDRWQCB General Permit, the fireworks operator immediately picks up debris from and sweeps the decks of the Pier to prevent debris and solid waste from blowing off the Pier into the water. The fireworks organizer and the fireworks operator, along with City of Imperial Beach Lifeguard and Public Works staff, also conduct several sweeps of the fireworks detonation zone and waterline to gather and properly dispose of all remaining debris. Any unexploded fireworks, including unexploded components, are collected, handled, and disposed of by the fireworks operator in accordance with Title 19 of the CCR. Consistent with the SDRWQCB General Permit requirements, the fireworks detonation zone, adjacent shorelines, and areas surrounding the Pier are inspected again for debris no later than 24 hours following the fireworks display event by the fireworks organizer. Any cardboard, paper, or other debris is removed.

Fireworks Show Over Glorietta Bay

The Fireworks Show Over Glorietta Bay is a single-barge fireworks display event that takes place in the Glorietta Bay inlet of San Diego Bay annually on the Fourth of July. It is anticipated that the District would consider annually whether or not to provide event sponsorship for this free fireworks display event, which was first established in 1993. Thousands of people directly view the Fireworks Show Over Glorietta Bay from the expansive walkway that extends along the western edge of the bay from Glorietta Bay Marina to Glorietta Bay Park; from Glorietta Bay Park at the southwestern corner of Glorietta Bay; from the Naval Amphibious Base to the south of Glorietta Bay; from Coronado Municipal Golf Course on the northern side of Glorietta Bay; from the high-rise condominiums at the Coronado Shores complex immediately to the west of Glorietta Bay; and from vessels that are either moored at Glorietta Bay Marina or visit and anchor there for the fireworks display event. The fireworks display event can also be seen from a distance along San Diego Bay.

The Fireworks Show Over Glorietta Bay involves the temporary placement of a single barge at the southeastern corner of Glorietta Bay. The barge is moved into its location and held in place by a tugboat. The preparation and placement of the barge do not require construction of any on-land support facilities. During the event, USCG, HPD, and special patrol vessels provide safety on the water, while the Coronado Police Department provides traffic coordination and public safety on land. The fireworks display event lasts approximately 19 minutes, after which the barge is removed and cleanup is conducted. A detailed description of barge setup, preparation, and cleanup practices follows.

Barge Setup and Preparation

The barge is set up primarily by the fireworks operator at a loading facility yard in accordance with the permits issued by the City of Coronado Fire Department and under supervision of governing fire officials (i.e., Fire Marshal). The barge is inspected for safety issues by the Fire Marshal and fireworks operator. The fireworks, which are encased in paper, are then loaded onto the barge in their Caltrans-approved shipping cartons by the fireworks operator. An electric match is placed in the fireworks fuse, and the wire from the match is wrapped around nails to prevent the wires from being pulled into the air. Once the fireworks are prepared, all debris, including water bottles, paper wrappers, cardboard shipping boxes, fuses, wires, and wrapping, is removed from the barge and properly disposed of by the fireworks operator. The barge is then moved by tugboat to its designated location. After reaching its designated location, the barge is held in place by a tugboat

and a minimum safety exclusion zone is established around the barge by USCG and/or the Fire Marshal, as appropriate. Public access is prohibited in this zone, and neither spectators nor occupied vessels not transporting fireworks technicians are allowed within the area until the Fire Marshal determines it is safe to do so after the conclusion of the fireworks display event.

Post-Fireworks Display Event Cleanup Practices

Once the fireworks display event is over, the fireworks operator and the Fire Marshal inspect the mortars and surrounding areas for any safety issues, such as unexploded firework components, in accordance with the requirements of Title 19 of the CCR. The duration of this inspection varies but historically has been approximately 15 to 20 minutes. All unexploded fireworks are collected, handled, and disposed of by the fireworks operator in accordance with Title 19 of the CCR. No one is allowed into the safety zone until granted permission by the Fire Marshal (Szymanski pers. comm.). Once the site is cleared by the Fire Marshal, and consistent with the requirements of the SDRWQCB General Permit, the fireworks operator focuses on picking up large debris on the barge to prevent it from blowing into the water. The barge is then brought back into the loading/setup yard facility to be further cleaned and have the mortars removed by the fireworks operator. In addition, as soon as permission is granted by the Fire Marshal, and consistent with the requirements of the SDRWQCB General Permit, the fireworks organizer, fireworks operator, and/or the Coronado Lifeguard conduct a sweep of the fireworks detonation zone to gather and properly dispose of floating debris from spent fireworks. Any unexploded fireworks, including unexploded components, are collected, handled, and disposed of by the fireworks operator. Consistent with the SDRWQCB General Permit requirements, the fireworks organizer and/or the Coronado Lifeguard also conduct an inspection of the waterfront around Glorietta Bay to look for and remove any debris along the shoreline no later than 24 hours following the fireworks display event.

Other Existing Fireworks Display Events

A number of other existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants occur in and around San Diego Bay throughout the year, including displays associated with the U.S.S. Midway Museum, NASSCO, San Diego Symphony Summer Pops concerts, and private events sponsored by organizations, such as the Our Lady of Rosary Church Annual Procession.

The Symphony Summer Pops is a concert series sponsored by the San Diego Symphony, which is held annually during the summer months at Embarcadero Marina Park South. The District considers annually whether or not to provide event sponsorship and issue a Tideland Use and Occupancy Permit, Lease, or other similar approval for this concert series, which includes fireworks display events. These concerts are held on most weekends from late June through August; however, not every concert is accompanied by a fireworks display event. When the concerts do include a fireworks display event, the pyrotechnics are launched from a barge located off Embarcadero Marina Park South in an area known as South Embarcadero. Each of these fireworks display events lasts approximately 5 minutes, with one show lasting approximately 10 minutes. It should be noted that the San Diego Symphony has applied for approval to construct a permanent year-round concert venue with the same number of fireworks display events that currently occur.

The Our Lady of Rosary Church Annual Procession is a private event sponsored by Our Lady of Rosary Church that involves the launching of fireworks from the Grape Street Pier while a procession marches down Harbor Drive, within the North Embarcadero area. The District considers

annually whether or not to issue a Special Event Permit for this fireworks display event. Fireworks for this display are launched intermittently during the 80-minute procession.

Other existing non-Fourth of July fireworks display events within and/or adjacent to the District's jurisdiction include those associated with the U.S.S. Midway Museum (multiple small shows) and NASSCO. The U.S.S. Midway Museum conducts up to 23 fireworks display events annually. Existing fireworks display events last approximately 3 to 10 minutes and are typically launched from the U.S.S. Midway flight deck or on a barge within San Diego Bay. NASSCO's two existing fireworks display events last approximately 10 minutes and are typically launched from the end of Pier 12 within San Diego Bay.

2.3.2 Fireworks Display Event Locations

Existing Fireworks Display Events

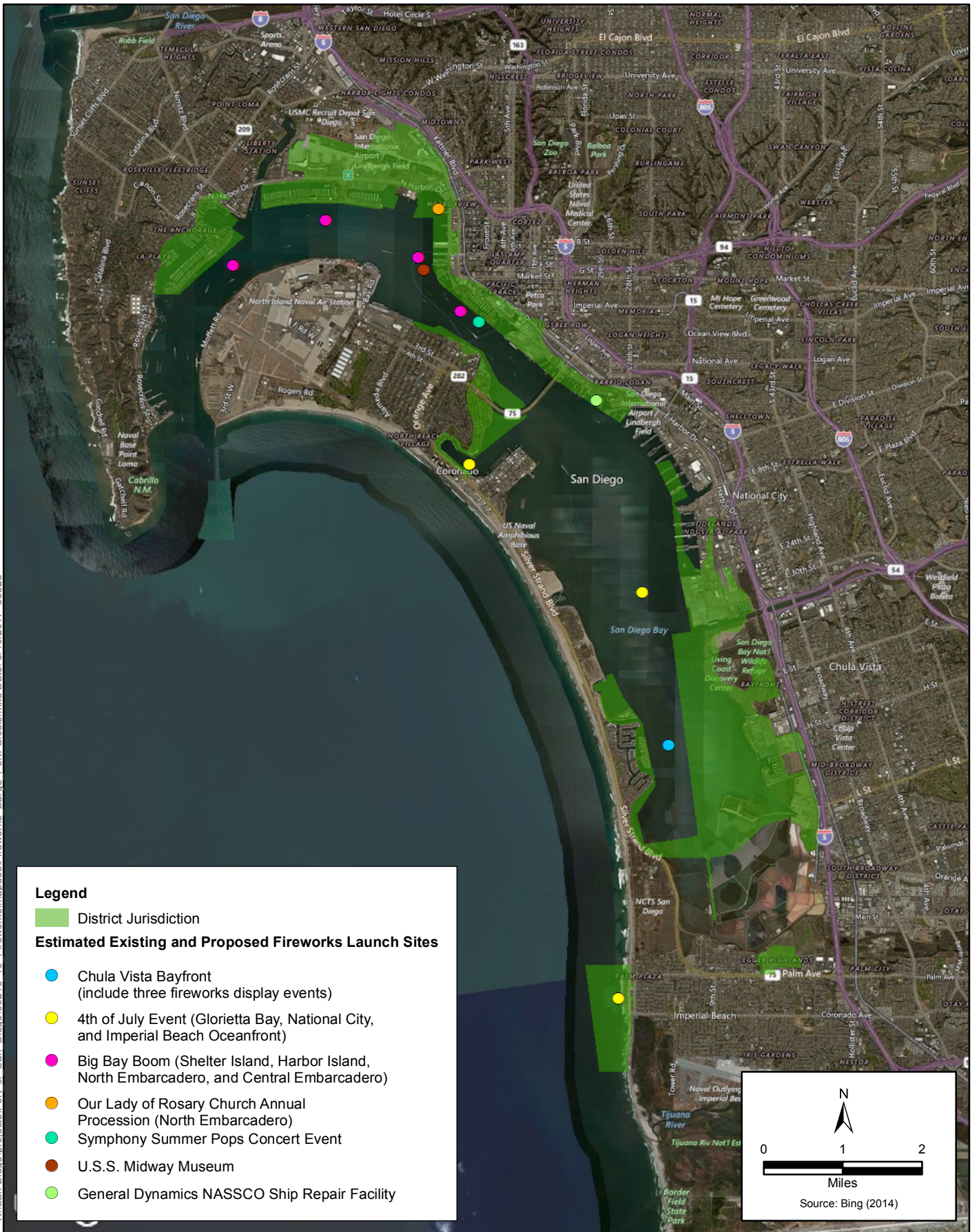
Existing fireworks display events currently occur at several locations within San Diego Bay, a natural harbor and deep-water port in southern San Diego County, and the Imperial Beach Oceanfront. San Diego Bay is an active maritime environment that provides passage and berthing for numerous types of boats and vessels, including small recreational boats that moor at dock marinas and open anchorage marinas within the Bay, mid-sized vessels such as private yachts and harbor cruise boats, and large vessels that consist of naval ships, cruise ships, cargo ships, and shipping barges. Fireworks display events within San Diego Bay take place off Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), and the NASSCO ship repair facility. In addition, fireworks display events take place along the Coronado Bayfront within Glorietta Bay (an inlet of San Diego Bay adjacent to Coronado Island) and the Imperial Beach Oceanfront. Estimated existing fireworks display event launch locations are depicted in Figure 2-1 and are described below.

North San Diego Bay

North San Diego Bay fireworks display events occur primarily from barges placed adjacent to Shelter Island, Harbor Island, North Embarcadero, Central Embarcadero, and South Embarcadero. Existing displays occurring at these locations include Big Bay Boom, which occurs on the Fourth of July and includes the placement of four barges within the Bay adjacent to Shelter Island, Harbor Island, North Embarcadero, and the Central Embarcadero. Non-Fourth of July fireworks display events that occur in the north San Diego Bay include the San Diego Symphony Summer Pops concerts, which include 20 displays per year launched from a barge off Embarcadero Marina Park South in the South Embarcadero, and the Our Lady of Rosary Church Annual Procession fireworks display event, which takes place during the fall at the Grape Street Pier within the North Embarcadero area. In addition, the U.S.S. Midway Museum holds approximately 23 fireworks display events generally associated with private events, which take place either from the flight deck or off a barge within San Diego Bay in the North Embarcadero area. These locations are discussed below along with the fireworks display events that occur within them.

Shelter Island

Shelter Island is directly south of the community of Point Loma, north of Naval Air Station North Island, and east of the Space and Naval Warfare Systems Center. California State Route (SR) 209 runs northwesterly approximately 0.75 mile from the site boundary. The only fireworks display event



Legend

District Jurisdiction

Estimated Existing and Proposed Fireworks Launch Sites

- Chula Vista Bayfront
(include three fireworks display events)
- 4th of July Event (Glorietta Bay, National City,
and Imperial Beach Oceanfront)
- Big Bay Boom (Shelter Island, Harbor Island,
North Embarcadero, and Central Embarcadero)
- Our Lady of Rosary Church Annual
Procession (North Embarcadero)
- Symphony Summer Pops Concert Event
- U.S.S. Midway Museum
- General Dynamics NASSCO Ship Repair Facility

N

0 1 2
Miles

Source: Bing (2014)



Figure 2-1
Estimated Existing and Proposed Fireworks Launch Sites
San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR
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that occurs near Shelter Island is the Big Bay Boom Fourth of July event, which entails the placement of a single, temporary barge just offshore of Shelter Island.

Harbor Island

Harbor Island is south of San Diego Lindbergh Field International Airport, north of Coronado Island, east of the Fleet Anti-Submarine Warfare Training Center, and across the Bay directly west of the County of San Diego Administration Center. North Harbor Drive is approximately 0.3 mile directly to the north of the site. The only fireworks display event that occurs near Harbor Island is the Big Bay Boom Fourth of July event, which entails the placement of a single, temporary barge just offshore of Harbor Island.

Centre City Embarcadero

The Centre City Embarcadero spans the length of San Diego Bay within the downtown San Diego area beginning at Laurel Street on the north end (just south of San Diego Lindbergh Field International Airport) and ending roughly at Park Boulevard, which is south of the Convention Center and north of the Tenth Avenue Marine Terminal. For the purposes of this EIR, the Centre City Embarcadero is broken down into three segments: North Embarcadero, Central Embarcadero, and South Embarcadero, as described below.

North Embarcadero

The North Embarcadero area is bounded by Laurel Street to the north, Pacific Highway to the east, San Diego Bay to the west, and the point where Harbor Drive turns east (just north of Ruocco Park and the Seaport Village) to the south. Fireworks display events that occur within the North Embarcadero include the Big Bay Boom Fourth of July event, which entails the placement of a single, temporary barge just offshore of the North Embarcadero, displays associated with private events at the U.S.S. Midway Museum, which are launched from the flight deck or off a barge within San Diego Bay, and the Our Lady of Rosary Church Annual Procession display, which occurs in the fall from the end of the Grape Street Pier. The Grape Street Pier is southeast of San Diego Lindbergh Field International Airport within the “Crescent Zone” of the North Embarcadero (the curvilinear portion of coastline that is bounded by the U.S. Coast Guard facility to the north and the Grape Street Pier to the south).

Central Embarcadero

The Central Embarcadero area comprises Seaport Village, an approximately 2-acre waterfront shopping and dining complex south of the intersection of Pacific Highway and West Harbor Drive. The Big Bay Boom Fourth of July event is the only fireworks display event that occurs within the Central Embarcadero area, and it entails the placement of a single, temporary barge just offshore of the Central Embarcadero.

South Embarcadero

The South Embarcadero includes the portion of the Centre City Embarcadero situated south of the Seaport Village and north of the Tenth Avenue Marine Terminal and is bounded by East Harbor Drive to the east. This area includes the San Diego Convention Center as well as several multi-story hotels. Fireworks display events that occur within the South Embarcadero include those associated with the San Diego Symphony’s Summer Pops concert series, which entail the placement of a single, temporary barge just offshore of the Embarcadero Marina Park South. Although one of the Big Bay

Boom barges is located closer to the Central Embarcadero area, the fireworks display event is visible from the South Embarcadero area, and viewers utilize the Embarcadero Marina Park South and public access areas to view the fireworks.

Coronado Bayfront

In the vicinity of the Fireworks Show Over Glorietta Bay fireworks display event, the Coronado Bayfront mostly comprises the publicly accessible Coronado Golf Course and Glorietta Bay. The Coronado Golf Course extends along the eastern shore of the Coronado Bayfront, south of the San Diego-Coronado Bay Bridge, and wraps around the Coronado Bayfront into Glorietta Bay. The Glorietta Bay inlet is adjacent to Coronado Island, north and west of the Naval Amphibious Base, east of SR-75, and south and west of the Coronado Municipal Golf Course. The only fireworks display event that occurs along the Coronado Bayfront is the Fireworks Show Over Glorietta Bay, a Fourth of July event that entails the placement of a single, temporary barge at the southeastern corner of Glorietta Bay. In addition, landside areas along the northern Coronado Bayfront, particularly Coronado Ferry Landing Park, are used as viewing areas for the Big Bay Boom Fourth of July event.

General Dynamics NASSCO Ship Repair Facility

Fireworks display events also currently occur at the NASSCO ship repair facility, which is located on tidelands adjacent to (west of) the Barrio Logan neighborhood, south of the San Diego-Coronado Bay Bridge, and north of Chollas Creek and Naval Base San Diego. Fireworks display events at NASSCO typically occur on Pier 12 in celebration of the launching of a new ship.

Imperial Beach Oceanfront

The Imperial Beach Pier is an approximately 1,300-foot-long pier located within the City of Imperial Beach, which is the southernmost city in San Diego County, just north of the U.S.-Mexico border. Access to the Pier is provided via Evergreen Avenue. The Pier is within the District's jurisdiction in Imperial Beach and is located along the oceanfront of Imperial Beach, south of Dunes Park, north of the Tijuana River National Estuarine Research Reserve, and west of the Portwood Pier Plaza. SR-75 runs northwesterly approximately 0.9 mile from the site boundary. The only fireworks display event that currently occurs at this site is the Fourth of July Imperial Beach Fireworks Show. For this event, fireworks are launched over the Pacific Ocean from the end of the Pier.

Proposed New Fireworks Display Events

National City Bayfront

While there are currently no existing fireworks display events along the National City Bayfront, it is anticipated that any future fireworks display events would take place within view of Pepper Park because Pepper Park is the closest publicly accessible gathering space near the National City Bayfront. Pepper Park is located along Tidelands Avenue in National City. The site is adjacent to the Sweetwater Channel, north of the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street Fill to the south, south of the National City Marine Terminal, east of San Diego Bay, and west of Pier 32 Marina. Interstate 5 (I-5) runs northeasterly approximately 0.4 mile from the park site boundary. Pepper Park site access is provided via Tidelands Avenue, which turns into Goesno Place as it approaches the park. One

fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the vicinity of Pepper Park.

Chula Vista Bayfront

While there are currently no existing fireworks display events along the Chula Vista Bayfront, it is anticipated that fireworks display events would occur within view of both the Chula Vista Bayside Park and the Chula Vista Bayfront Park. Bayside Park is a waterfront park accessed by Bayside Parkway. It is bounded to the north by a boatworks facility, to the south by a man-made inlet that contains marinas, to the east by a recreational vehicle (RV) park, and to the west by San Diego Bay. Bayfront Park is on the south side of the man-made inlet and is bounded to the south and west by San Diego Bay and to the east by the marinas of the man-made inlet as well as vacant land. The park is accessed by Marina Way. I-5 is approximately 0.5 mile to the east of the Chula Vista Bayfront. A total of three fireworks display events (including one on the Fourth of July) along the Chula Vista Bayfront area are allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan and are anticipated to involve the placement of a single, temporary barge in the Bay in the vicinity of the two parks.

2.3.3 Surrounding Conditions

The following discussion provides a brief overview of the land uses within the vicinity of the project areas where fireworks display events currently occur or are proposed to occur, as well as a discussion of the public viewing opportunities of the fireworks display events for each project area. A detailed discussion of the existing surrounding land uses can be found in Section 4.8, *Land Use and Planning*, of this Draft EIR. The discussion below focuses on landside publicly accessible viewing opportunities for the fireworks display events; however, the entire Bay and Pacific Ocean near Imperial Beach are also publicly accessible amenities for people on boats, including private boats, rental boats, or charter boats (e.g., harbor cruise boats). In addition, there are a number of restaurants and hotels that provide viewing opportunities for most of the locations within San Diego Bay and along the Imperial Beach Oceanfront.

Existing Fireworks Display Events

North San Diego Bay

The north San Diego Bay comprises an active waterfront with a diverse set of uses that represent the many industries that require access to waterfront areas. These include primarily tourist and recreational uses within Shelter Island and Harbor Island, which include many hotels, restaurants, marinas, and boat launches. North, Central, and South Embarcadero also provide tourist-oriented uses, such hotels and restaurants, but also include harbor cruise businesses, maritime museums, specialty retail facilities, shopping destinations, the B Street Cruise Ship Terminal, and the San Diego Convention Center.

Public viewing locations are plentiful within the north San Diego Bay, as there are many publicly accessible areas. These viewing locations include the following:

- Shelter Island
 - Shoreline Park—runs the entire bayside length of Shelter Island—adjacent to the Point Loma neighborhood of San Diego

- Harbor Island
 - Spanish Landing Park (on the mainland side)
 - Harbor Island Drive Park—a narrow parkway (mostly a waterfront promenade) along most of the Bayfront with a larger portion that includes green lawns and other amenities about mid-way along the west side of Harbor Island.
- North Embarcadero (the entire length of the North Embarcadero includes a publicly accessible waterfront pathway, but because barges would be placed nearer the southern end of the North Embarcadero, the following locations are concentrated in that area)
 - Tuna Harbor Park—located along the waterfront of the North Embarcadero and then continues out onto a pier off North Harbor Drive and south of the U.S.S. Midway Museum
 - Ruocco Park—located along the waterfront, just south of Tuna Harbor Park and north of Seaport Village
- Central Embarcadero
 - Seaport Village/The Headquarter—located where the shoreline of the waterfront turns east, includes large pedestrian pathways and a large collection of restaurants and specialty retail facilities
 - Embarcadero Marina Park North—a large park that extends into the Bay adjacent to Seaport Village and includes a waterfront walkway, large green lawns, benches, picnic tables, and other similar amenities
- South Embarcadero
 - Embarcadero Marina Park South—a large park that extends into the Bay adjacent to the Convention Center and includes a waterfront walkway, a public fishing pier, large green lawns, benches, picnic tables, and other similar amenities. This is also the location of the San Diego Symphony’s Summer Pops concert series.
- Coronado Bayfront—there are several large public parks on the Coronado Bayfront, directly across the Bay from the South Embarcadero, that provide excellent viewing opportunities for barges located in that area. These include Bayview Park, Centennial Park, Coronado Landing Park, and Coronado Tidelands Park.

Coronado Bayfront

Both the north and east shores of the Coronado Bayfront are in proximity to existing fireworks display events. Uses along the northern shore of the Coronado Bayfront include the Naval Air Station North Island and primarily single-family and multi-family residential uses that front the Bay along 1st Street between Alameda Boulevard and A Avenue. Commercial uses are concentrated toward the eastern end of the north Bayfront, including the Ferry Landing Marketplace, which includes a number of restaurants and small boutique or tourist-oriented shops. A hotel—the Coronado Island Marriott Resort and Spa—is located at the northeast corner of the Coronado Bayfront. Public open spaces along the north Bayfront include Bayview Park at I Avenue and 1st Street, Centennial Park at Orange Avenue and 1st Street, and Coronado Ferry Landing Park at B Avenue and 1st Street.

Land uses along the east shore of the Coronado Bayfront include a marina, boat rentals, yacht clubs, hotels, the Coronado Municipal Golf Course, high-rise condominiums, a community center and

public parks, and the U.S. Naval Amphibious Base. Public viewing opportunities along the eastern Coronado Bayfront include the waterfront pedestrian paths that are part of the Coronado Community Center located along the western side of Glorietta Bay as well as Glorietta Bay Park, located along the southwestern portion of Glorietta Bay, north of the U.S. Naval Amphibious Base.

General Dynamics NASSCO Ship Repair Facility

The NASSCO ship repair facility is located on tidelands adjacent to (west of) the Barrio Logan neighborhood, south of the San Diego-Coronado Bay Bridge, and north of Chollas Creek and Naval Base San Diego. The segment of the Bayfront spanning from the Coronado Bay Bridge to Chollas Creek is occupied largely by ship repair yards and is highly industrialized. The area consists of numerous ship repair docks, ships or ship parts in various stages of repair, cranes and other large equipment, and warehouse buildings. Land uses in the area surrounding the NASSCO ship repair facility include marine-related uses, while the waterside uses include specialized berthing. Public viewing opportunities are not provided for fireworks display events held at the NASSCO ship repair facility.

Imperial Beach Oceanfront

The Imperial Beach Oceanfront consists entirely of the beach, which is abutted predominantly by residential uses, including single-family homes, condominium complexes, and multi-family apartment complexes. Other nearby uses include hotels, restaurants, and retail shops. The beach is publicly accessible and provides a large, open area for public viewing opportunities. In addition to the beach, there are two beach-side publicly accessible parks. These include Dunes Park, approximately 800 feet north of the Pier, and Portwood Pier Plaza, directly adjacent to the Pier. While normally the Pier is a publicly accessible amenity in Imperial Beach, it is closed for safety reasons during fireworks display events because fireworks are launched from the Pier.

Proposed New Fireworks Display Events

National City Bayfront

The National City Bayfront is largely industrial and includes the National City Marine Terminal as well as a naval base. Only a small portion of the National City Bayfront is publicly accessible. Public viewing opportunities are limited to Pepper Park, which is approximately 0.4 mile from the San Diego Bay waterfront.

Chula Vista Bayfront

Large portions of the Chula Vista Bayfront area are dedicated to wildlife reserves and marshes. Other uses include public parks, a marina, an RV park, a salt works operation, and a boat repair facility. However, the middle of the Chula Vista Bayfront includes three publicly accessible parks in the vicinity of the waterfront, including Bayside Park, Bayfront Park, and Marina View Park, which is just east of Bayfront Park.

3.1 Introduction

The proposed project consists of (1) an ordinance establishing a San Diego Unified Port District (District) Code section (proposed ordinance) to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District. Discretionary actions for fireworks display events that may require District approval include, but are not limited to, the following:

- Sponsorship agreement
- Special event permit
- Lease and lease amendment
- Tideland Use and Occupancy Permit
- Right of Entry Permit
- Coastal Act Categorical Determination of Exclusion
- Coastal Development Permit

Fireworks display events that require a discretionary action by the District or are operated by the District's tenants have been occurring on the Fourth of July and at other times throughout the year for more than a decade. The most prominent existing fireworks display events are the annual Fourth of July Big Bay Boom in San Diego Bay and the Fourth of July Imperial Beach Fireworks Show. The Fireworks Show Over Glorietta Bay is an existing display whose fireworks organizers may seek to obtain funding from the District in the future, which would require a discretionary action by the District. Existing fireworks display events that occur at other times throughout the year include those associated with the San Diego Symphony's Summer Pops concert series (multiple small displays) and the Our Lady of Rosary Church annual procession, along with the U.S.S. Midway Aircraft Carrier Museum (U.S.S. Midway Museum) (multiple small displays) and General Dynamics National Steel and Shipbuilding Company (NASSCO) displays. Four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts, are anticipated to require a future discretionary action by the District, as discussed further below.

3.2 Project Objectives

The District has identified the following objectives for the proposed project:

1. To develop a District ordinance that establishes policies, performance standards, and other requirements that would be applied to fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach and require a discretionary action by the District or are operated by the District's tenants;
2. To allow for the continued occurrence of traditional fireworks display events¹ in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants, including on the Fourth of July, providing a popular and region-wide way to celebrate and express civic pride;
3. To allow for the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants in a manner that considers the health, safety, and welfare of people, property, and the environment; and
4. To continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available.

3.3 Project Characteristics

The proposed project consists of an ordinance to govern existing and proposed new fireworks display events that occur throughout the year in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or that are operated by the District's tenants. These existing fireworks display events include the Fourth of July Big Bay Boom, Fourth of July Imperial Beach Fireworks Show, and Fireworks Show Over Glorietta Bay, along with several other events sponsored by the District, the District's tenants, and other organizations throughout the year. The fireworks display events are organized and/or sponsored by various fireworks organizers, and the fireworks displays are conducted by a number of licensed fireworks operators. Typically, fireworks associated with these displays are launched from piers, flight decks, and/or barges adjacent to and/or within the waters of San Diego Bay and the Pacific Ocean near Imperial Beach. Spectators for each of the fireworks display events typically gather in public areas

¹ A traditional fireworks display event involves the use of display fireworks that are defined by the U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives as large fireworks used in fireworks display shows, generally under the supervision of a trained pyrotechnician. These fireworks are designed primarily to produce visible or audible effects by combustion, deflagration, or detonation. They include, but are not limited to, salutes containing more than 2 grains (130 milligrams) of flash powder, aerial shells containing more than 40 grams of pyrotechnic compositions (including any break charge and visible/audible effect composition but exclusive of lift charge), and other display pieces that exceed the limits of explosive materials for classification as "consumer fireworks." They also include fused set pieces containing components that together exceed 50 milligrams of flash powder. Display fireworks are classified as fireworks UN0333, UN0334, or UN0335 by the U.S. Department of Transportation (U.S. ATF 2016).

along District tidelands near the fireworks display event locations, utilizing the surrounding transportation network and public parking facilities. The four new fireworks display events included as part of the proposed project would be similar in duration and magnitude as the existing fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach.

3.3.1 Proposed Ordinance

As stated above, the proposed project consists of an ordinance to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants. The proposed ordinance is included as Appendix D. The proposed ordinance addresses the following:

- Permit procedures and requirements for the conduct of fireworks displays
- Compliance with applicable federal, state, and local laws and regulations governing fireworks, including, but not limited to:
 - Code of Federal Regulations
 - Clean Water Act
 - California Health and Safety Code
 - California Code of Regulations
 - California Environmental Quality Act (CEQA)
 - California Coastal Act
- Compliance with applicable federal, state, and local plans and permits governing fireworks, including, but not limited to:
 - San Diego Regional Water Quality Control Board's (SDRWQCB's) General Permit for Public Display of Fireworks (Order No. R9-2011-0022)
 - District's Climate Action Plan
 - District's Stormwater Management and Discharge Control Code
 - Integrated Natural Resources Management Plan
 - Chula Vista Bayfront Master Plan Natural Resources Management Plan
- Consistency with the features and characteristics of each individual fireworks display event analyzed in this Draft EIR, including, but not limited to:
 - Allowable launch site locations for individual displays
 - Total pounds of fireworks for individual displays
 - Allowable shell size(s) for individual displays
 - Frequency of individual displays
 - Duration of individual displays

- Compliance with the applicable mitigation measures identified in the Mitigation Monitoring and Reporting Program for the proposed project.

3.3.2 Project Operations

As discussed in Chapter 2, *Environmental Setting*, a number of existing fireworks display events occur year-round in and around San Diego Bay and the Pacific Ocean near Imperial Beach. A list of these fireworks display events, and a description of their operational characteristics, is provided in Tables 2-1 and 2-2 respectively, of Chapter 2, *Environmental Setting*. These fireworks display events would be subject to the proposed ordinance.

In addition to the existing fireworks display events, the proposed ordinance would govern four proposed new fireworks display events, including three displays along the Chula Vista Bayfront as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July display along the National City Bayfront. The three proposed fireworks display events along the Chula Vista Bayfront include one Fourth of July display and two non-Fourth of July displays. It is anticipated that the District would consider annually whether or not to provide event sponsorship and/or issue a Special Event Permit, Right-of-Entry Permit, Tideland Use and Occupancy Permit, Coastal Development Permit, Coastal Act Categorical Determination of Exclusion, or other similar approval for these proposed new fireworks display events. These proposed new fireworks display events are anticipated to last approximately 3 to 10 minutes for non-Fourth of July displays, and 15 to 20 minutes for Fourth of July displays, and the fireworks are anticipated to be launched from barges within San Diego Bay. These proposed new fireworks display events would also be governed by the proposed ordinance. The proposed new fireworks display events are identified in Table 3-1, below. Figure 2-1 depicts the estimated proposed barge locations along the Chula Vista and National City Bayfronts.

Table 3-1. Proposed New Fireworks Display Events Requiring a Future Discretionary Action by the District

Time of Year	Approximate Number of Fireworks Display Events	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event	Approximate Shell Size
January–March	1	• Chula Vista ¹	3–10 minutes	2–8 inches
April–June	—	—	—	—
July–September	2	• Chula Vista ² • National City ²	15–20 minutes	3–8 inches
October–December	1	• Chula Vista ¹	3–10 minutes	2–8 inches
TOTAL³	4			

¹ Non-Fourth of July display (smaller display)

² Fourth of July display

³ Total includes three fireworks display events along the Chula Vista Bayfront, as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan.

Table 3-2 summarizes the total pounds of fireworks estimated in this Draft EIR for each proposed new fireworks display event. As discussed in Chapter 2, *Environmental Setting*, the total pounds of fireworks for the existing fireworks display events identified in Table 2-2 was determined through a review of the post-event reports submitted in compliance with SDRWQCB's General Permit for these displays, special event permits obtained from the District's five member cities, and data collected from the fireworks organizers, fireworks operators, and/or District tenants. Because no fireworks display events currently occur along the National City or Chula Vista Bayfronts, the total pounds of fireworks used to produce these displays is not yet known. However, for the purposes of this Draft EIR, the total pounds of fireworks for the National City and Chula Vista Bayfronts Fourth of July fireworks display events is anticipated to be 456 pounds for each display, which is similar to the Fourth of July Imperial Beach Fireworks Show. For the proposed new non-Fourth of July fireworks display events that would occur along the Chula Vista Bayfront, the total pounds of fireworks was estimated by scaling the duration of the Fourth of July Imperial Beach Fireworks Show (20-minute display) by the number of minutes for each proposed new fireworks display event (assumed to range between 3 and 10 minutes with an average duration of 5 minutes, similar to existing displays operated by the San Diego Symphony during the Summer Pops concert series and U.S.S. Midway Museum), which equals an estimated 114 pounds for each display. Because the proposed ordinance would require consistency with the features and characteristics of each individual fireworks display event analyzed in this Draft EIR, including, but not limited to, the total pounds of fireworks and durations for individual displays, the values provided in Table 3-2, below, represent the maximum allowable pounds of fireworks and durations for the proposed new displays along the Chula Vista and National City Bayfronts assumed in this Draft EIR. Similarly, because the proposed ordinance would also govern the existing fireworks display events identified in Chapter 2, *Environmental Setting*, the values provided in Table 2-2 also represent the maximum allowable pounds of fireworks for each existing fireworks display assumed in this Draft EIR. If an existing fireworks display event identified in Table 2-2 is proposed to be modified in the future, a new additional fireworks display event is proposed that was not analyzed in this Draft EIR, or any of the characteristics provided in Table 3-2 (e.g., magnitude and/or duration) of the four proposed new fireworks display events are proposed to be modified, the fireworks display event will be subject to additional environmental review, pursuant to State CEQA Guidelines Section 15168(c).

Table 3-2. Summary of Activity Associated with the Proposed Fireworks Display Events

Fireworks Display Event	Day of Event	Number of Events	Pounds of Fireworks per Event	Pounds of Fireworks Annually	Number of Barges Used per Event
Chula Vista Bayfront ¹	Fourth of July plus two other shows	3	456 ¹ 114 ²	684	1
National City Bayfront ¹	Fourth of July	1	456 ¹	456	1

Source: District 2016

¹ The total pounds of fireworks display events in the Chula Vista Bayfront and National City Bayfront areas on the Fourth of July is anticipated to be 456 pounds, similar to the Fourth of July Imperial Beach Fireworks Show.

² The total pounds of non-Fourth of July fireworks events estimated by scaling the Fourth of July Imperial Beach Fireworks Show (20-minute event) by the number of minutes for each fireworks display event (assumed to average 5 minutes), which equals an estimated 114 pounds each.

Both existing and proposed new fireworks display events involve coordination between several agencies, organizations, and businesses, as detailed below. The definitions below pertain to terminology used in the description of fireworks display events in the following paragraphs and throughout this Draft EIR.

- *Sponsor* generally refers to an individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency, or other legal entity, or the agent or employee thereof, that contributes funds, services, or other similar goods to a *fireworks organizer* in support of a fireworks display event. The District has historically been a *sponsor* of several of the fireworks display events described below.
- *Fireworks organizer* generally refers to the individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency, or other legal entity, or the agent or employee thereof, proposing to conduct a fireworks display event. The *fireworks organizer* is typically responsible for obtaining all required funding, entitlements, and approvals for a fireworks display event, as well as contracting with a *fireworks operator* to produce the fireworks display event. Historically, the District has entered into agreements with *fireworks organizers* in order to *sponsor* several of the fireworks display events described below.
- *Fireworks operator* generally refers to a State of California–licensed pyrotechnic operator who, by examination, experience, and training, has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted. A *fireworks operator* is typically responsible for supplying, setting up, and detonating the pyrotechnic devices associated with a fireworks display event. The *fireworks operator* is also typically under contract with the *fireworks organizer* to produce the fireworks display event. Historically, the District has not had a direct relationship with the *fireworks operator*.

All existing and proposed new fireworks display events that either require a discretionary action by the District or that are operated by the District’s tenants would be subject to all applicable federal, state, and local laws and regulations governing fireworks as well as any additional requirements set forth in the proposed ordinance.

3.3.3 Description of Pyrotechnic Devices

Fireworks are a class of low-explosive pyrotechnic devices used for aesthetic or entertainment purposes. Fireworks devices take many forms to produce four primary effects: noise, light, smoke, and floating materials (e.g., confetti). Fireworks may be designed to burn with flames and sparks of various colors, including red, orange, yellow, green, blue, purple, and silver. Professional pyrotechnic devices used in fireworks display events can be grouped into three general categories: (1) aerial shells (i.e., paper and cardboard spheres or cylinders filled with pyrotechnic materials), (2) low-level comet and multi-shot devices, such as roman candles, and (3) set piece displays mounted on the ground.

Aerial Fireworks/Shells

Aerial fireworks typically either provide their own propulsion (e.g., a skyrocket using a solid rocket motor) or are launched into the air in an aerial shell by a mortar using a black powder lifting charge or propellant. Most of the incendiary elements and shell casings burn up in the atmosphere;

however, portions of the casings and some internal structural components and chemical residue fall back to the ground and/or receiving water bodies. The aerial shell typically consists of a cylinder or spherical cartridge, usually constructed of paper, plastic, or cardboard, and may include some plastic or paper internal components used to compartmentalize chemicals within the shell. The shell casing contains a burst charge, pyrotechnic material that emits prescribed colors when detonated, a fuse, and a black powder lift charge.

Aerial shells are often combined so as to make a great variety of sparkling shapes, often variously colored, when detonated. Colors in fireworks are usually generated by pyrotechnic stars (usually just called *stars*), which produce intense light when ignited. Stars contain five basic types of ingredients.

- A fuel, which allows the star to burn
- An oxidizer, which usually produces oxygen to support combustion of the fuel
- Color-producing chemicals
- A binder, which holds the pellet together
- A chlorine donor, which intensifies the color of the flame (sometimes the oxidizer can serve this purpose)

Attached to the bottom of an aerial shell is a lift charge of black powder. The lift charge and shell are placed at the bottom of a mortar buried in earth/sand or affixed to a wooden rack. When a fuse attached to the lift charge is ignited with an electric charge or heat source, the lift charge explodes and propels the shell through the mortar tube and into the air to a height determined by the amount of powder in the lift charge and the weight of the shell. As the shell travels skyward, a time-delayed secondary fuse eventually ignites the burst charge within the shell at peak altitude. The burst charge detonates, igniting and scattering the stars, which may, in turn, have small secondary explosions. Shells can be launched one at a time or in a barrage of simultaneous or quick-succession launches and are typically designed to detonate between 200 and 1,000 feet in the air.

As identified in Tables 2-1 and 3-1, aerial shells range in diameter from 2 inches to 10 inches for existing and proposed new fireworks display events within San Diego Bay and the Imperial Beach Oceanfront. The weight, height of the burst, burst radius, and burst delay of a firework is dependent upon the size of the shells (i.e., diameter of the shell). As the shell size increases, these characteristics also increase (Poulton and Kosanke 1995).

Low-Level Fireworks Devices

Low-level fireworks devices consist of stars packed linearly within a tube. When ignited, the stars exit the tube in succession, producing a fountain effect of single- or multi-colored light as the stars incinerate through the course of their flight. Typically, the stars burn rather than explode, thus producing a ball or trail of sparkling light to a prescribed altitude, where they simply extinguish. Sometimes they terminate with a small explosion similar to a firecracker. Other low-level devices emit a projected hail of colored sparks or perform erratic, low-level flight while emitting a high-pitched whistle. Some emit a pulsing light pattern or crackling or popping sound effects. In general, low-level launch devices and encasements remain on the ground or attached to a fixed structure and can be removed upon completion of the fireworks display event. Common low-level devices are

multi-shot devices, mines, comets, meteors, candles, strobe pots, and gerbs. They are designed to produce effects between 0 and 200 feet in the air.

Set Piece/Ground-Level Fireworks

Set piece or ground-level fireworks are primarily static in nature and remain close to the ground. They are usually attached to a framework crafted in the design of a logo or familiar shape, illuminated by pyrotechnic devices such as flares, sparklers, and strobes. These fireworks typically employ bright flares and sparkling effects and may also emit limited sound effects such as cracking, popping, or whistling. Set pieces usually are used in concert with low-level effects or an aerial show and sometimes act as a centerpiece for the fireworks display event. They may have some moving parts, but typically do not launch devices into the air. Set piece displays typically are designed to produce effects between 0 and 50 feet in the air.

3.3.4 Fireworks Chemical Constituents

Typical fireworks constituents include, but are not limited to, aluminum, antimony, barium, carbon, calcium, chlorine, cesium, copper, iron, potassium, lithium, magnesium, oxidizers (including nitrates, chlorates, and perchlorates), phosphorus, sodium sulfur, strontium, titanium, and zinc. The chemical constituents burn at high temperatures when a firework is detonated, which promotes incineration. The chemical constituents within the fireworks are scattered by the burst charge, which separates them from the fireworks casing and internal shell components. Combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris, including paper, cardboard, cotton, metal, wires, fuses, and other similar components. A list of chemicals typically used in fireworks for fuels, oxidizers, binding agents, coloration effects, and sound effects is provided in Table 3-3, below. Based on literature review, the total net weight of non-chemical pyrotechnic materials (i.e., debris) in a firework shell is typically approximately one-half their gross weight (Poulton and Kosanke 1995).

Table 3-3. Fireworks Chemical Constituents

Symbol	Name	Purpose in Fireworks Usage
Al	Aluminum	Aluminum is used to produce silver and white flames and sparks. It is a common component of sparklers.
Ba	Barium	Barium is used to create green colors. It can also help stabilize other volatile elements.
C	Carbon	Carbon is one of the main components of black powder, which is used as a propellant. Carbon provides the fuel for a firework. Common forms include carbon black, sugar, or starch.
Ca	Calcium	Calcium is used to deepen colors. Calcium salts produce orange fireworks.
Cl	Chlorine	Chlorine is an important component of many oxidizers. Several of the metal salts that produce colors contain chlorine.
Cs	Cesium	Cesium compounds produce indigo color.
Cu	Copper	Copper compounds produce blue colors.
Fe	Iron	Iron is used to produce sparks. The heat of the metal determines the color of the sparks.

Symbol	Name	Purpose in Fireworks Usage
K	Potassium	Potassium compounds help to oxidize fireworks mixtures. Potassium nitrate, potassium chlorate, and potassium perchlorate are all-important oxidizers. The potassium content can impart a violet color to the sparks.
Li	Lithium	Lithium is a metal used to impart a red color. Lithium carbonate, in particular, is a common colorant.
Mg	Magnesium	Magnesium burns a very bright white, so it is used to add white sparks or improve the overall brilliance of a firework.
Na	Sodium	Sodium imparts a gold or yellow color; however, the color is often so bright that it frequently masks less intense colors.
O	Oxygen	Fireworks include oxidizers, which produce oxygen to promote burning. Oxidizers usually are nitrates, chlorates, or perchlorates. Sometimes the same substance is used to provide oxygen and color.
P	Phosphorus	Phosphorus burns spontaneously in air and is also responsible for some glow-in-the-dark effects. It may be a component of a firework's fuel.
S	Sulfur	Sulfur is a component of black powder and, as such, it is found in a firework's propellant/fuel.
Sb	Antimony	Antimony is used to create glitter effects.
Sr	Strontium	Strontium salts impart a red color. Strontium compounds are also important for stabilizing fireworks mixtures.
Ti	Titanium	Titanium metal can be burned as powder or flakes to produce silver sparks.
Zn	Zinc	Zinc is a bluish-white metal that is used to create smoke effects for fireworks and other pyrotechnic devices.

Source: SDRWQCB 2011

Introduction

Sections 4.1 through 4.10 of Chapter 4 of this Draft EIR contain a discussion of the potential significant environmental effects resulting from implementation of the proposed project, including information related to existing site conditions, criteria for determining significance of potential environmental impacts, analyses of the type and magnitude of environmental impacts, and feasible mitigation measures that would reduce or avoid significant environmental impacts.

Potential Environmental Impacts

This chapter provides an analysis of the following potential environmental impacts of the proposed project:

- 4.1, Aesthetics and Visual Resources
- 4.2, Air Quality and Health Risk
- 4.3, Biological Resources
- 4.4, Greenhouse Gas Emissions, Climate Change, and Energy
- 4.5, Hazards and Hazardous Materials
- 4.6, Hydrology and Water Quality
- 4.7, Land Use and Planning
- 4.8, Noise and Vibration
- 4.9, Public Services and Facilities
- 4.10, Transportation, Circulation, and Parking

It was determined during preparation of the Initial Study/Environmental Checklist (Appendix A) that the proposed project would have either a less than significant impact or no impact associated with the following topics: agriculture and forestry resources; cultural resources; geology and soils; mineral resources; population and housing; recreation; and utilities and service systems. These topics are described in Section 6.4, *Effects Not Found to be Significant*, of this Draft EIR.

Format of the Environmental Analysis

Each of the 10 environmental topic sections of this chapter includes the following subsections.

Overview

This subsection briefly describes the criteria considered in the particular resource section, summarizes the resources used to compile the information presented for the environmental

analysis, and summarizes the environmental effects of the proposed project and any feasible mitigation measures.

Existing Conditions

According to Section 15125 of the State CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of a project to provide the “baseline condition” against which project-related impacts are compared. Typically, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published; however, a different baseline may be used in specific cases where it is deemed appropriate. Unless otherwise indicated, the environmental setting described in each of the following sections will be the physical environmental conditions that existed in the vicinity of existing and proposed new fireworks display events in San Diego Bay and along the Imperial Beach Oceanfront on the date the NOP was published.

As discussed in Section 1.4, the NOP for the proposed project was issued on August 7, 2015. At the time the NOP was published, the existing conditions included 49 annual fireworks display events within the San Diego Bay and Imperial Beach Oceanfront that required a discretionary action by the District or that were operated by the District’s tenants. The existing fireworks display events are identified in Table 2-1 of Chapter 2, *Environmental Setting*.

Applicable Laws and Regulations

This subsection provides a summary of regulations, plans, policies, and laws at the federal, state, regional, and local levels that are relevant to the proposed project as they relate to the particular environmental resource area in discussion. Compliance with these applicable laws and regulations is mandatory unless noted otherwise within the analysis. Therefore, as it relates to the project impact analysis below, compliance is assumed because it is required by law, and mitigation would generally not be required when compliance with an existing law or regulation would ensure that a significant impact would not occur.

Project Impact Analysis

This subsection describes the methodology used for the analysis of the potential environmental impacts of the proposed project; identifies the criteria for determining the significance of potential impacts; and states a conclusion as to whether the environmental impacts would be considered significant and unavoidable, less than significant with mitigation incorporated, or less than significant, or indicates that no impact would occur (see definitions below). Each topic analyzed is divided into specific issues, based on potential impacts. The discussion of potential impacts is based on the applicable threshold of significance (see below) for each issue. Where potential impacts are significant, mitigation measures are identified, as feasible, to minimize, rectify, reduce, eliminate, or compensate for the significant impacts with the goal of reaching a less-than-significant impact determination.

Methodology

Each methodology subsection describes the means used to analyze potential impacts on a particular resource, discussing the steps followed and listing any studies relied on for arriving at conclusions as to significance.

Thresholds of Significance

Thresholds of significance are criteria used to assess whether potential environmental effects are significant. The significance criteria used in this analysis are primarily based on the recommendations provided in Appendix G of the State CEQA Guidelines. The thresholds of significance define the type, amount, and/or extent of an impact that would be considered a significant adverse change in the environment. The thresholds of significance for some environmental topics, such as air quality and noise, are quantitative, while those for other topics, such as aesthetics and visual resources, are qualitative. The thresholds of significance are intended to assist the reader in understanding how the significance of an impact is determined.

Project Impacts and Mitigation

The analysis of environmental impacts considers both the construction and operation of the proposed project. As required by Section 15126.2(a) of the State CEQA Guidelines, direct, indirect, short-term, long-term, onsite, and/or offsite impacts are addressed, as appropriate, for the environmental issue being analyzed. This Draft EIR utilizes the following terms to describe the level of significance of impacts identified during the course of the environmental analysis.

No Impact: This term is used when implementation of the proposed project would have no adverse effect on a resource.

Less than Significant: This term is used to refer to impacts resulting from implementation of the proposed project that are not likely to exceed the defined thresholds of significance, and potentially significant impacts that are reduced to a level that does not exceed the defined thresholds of significance after implementation of mitigation measures. In the latter case, the determination may also be stated as “less than significant with mitigation incorporated.”

Significant: This term is often used to refer to impacts resulting from implementation of the proposed project that exceed the defined thresholds of significance before identification of any mitigation measures. A “significant effect” is defined by Section 15382 of the State CEQA Guidelines as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment [but] may be considered in determining whether the physical change is significant.” For impacts that exceed a threshold of significance, mitigation measures that avoid or reduce the potential impact are identified, which may cause the impact to be reclassified as less than significant if it is sufficiently reduced, or the impact may remain significant, even after the application of feasible mitigation measures, in which case it is referred to as a significant and unavoidable impact (or unavoidable significant impact).

Significant and Unavoidable: This term is used to refer to significant impacts resulting from implementation of the proposed project that cannot be eliminated or reduced to below standards of significance through implementation of feasible mitigation measures.

Mitigation Measures

Section 15126.4 of the State CEQA Guidelines requires an EIR to “describe feasible measures which could minimize significant adverse impacts.” Mitigation includes avoiding an impact altogether, minimizing impacts, rectifying impacts, reducing or eliminating impacts over time, or compensating for impacts by replacing or providing substitute resources. The State CEQA Guidelines define

feasibility as “capable of being accomplished in a successful manner within a reasonable period of time taking into account economic, legal, social, technological, or other considerations.” This subsection lists the mitigation measures that could reduce the severity of impacts identified in the *Impact Analysis* subsection. Mitigation measures are the specific environmental requirements for implementation of the proposed project that will be included in the Mitigation Monitoring and Reporting Program and adopted as conditions of project approval.

Section 4.1

Aesthetics and Visual Resources

4.1.1 Overview

This section describes the existing aesthetic and visual conditions that could be adversely affected by the proposed project and discusses the applicable laws and regulations related to aesthetics and visual quality. The impact analysis contained in this section describes the potential impacts on aesthetics and visual resources associated with the proposed new fireworks display events. Impacts related to aesthetics and visual resources were considered significant if the proposed project would create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Other potential impacts on aesthetic and visual resources, including (1) substantial adverse effects on designated scenic views, (2) substantially damaging scenic resources within a designated scenic highway, or (3) substantially degrading the existing visual character of the site and its surroundings, were analyzed in Section I of the Initial Study/Environmental Checklist (Appendix A), which is hereby incorporated by reference. The potential impacts were determined to be less than significant. The analysis and conclusions regarding these impacts are included in Chapter 6, Section 6.4, *Effects Not Found to Be Significant*.

Based on the analysis that follows, all impacts related to aesthetics and visual resources would be less than significant. No mitigation is required.

4.1.1.1 Concepts and Terminology

This section defines the key concepts and terminology used to describe existing aesthetic and visual conditions or the change in existing conditions after implementation of the proposed project. Although there may be more than one definition for any of these terms, these common definitions are used for analytical consistency.

View refers to visual access and obstruction, or whether it is possible to see a focal point or panoramic scene from an area. Views may be discussed in terms of foreground, middleground, and background. *Foreground* views are immediately presented to the viewer and include objects at close range that may tend to dominate the view. *Middleground* views occupy the center of the viewshed and tend to include objects that are the center of attention if they are large enough or visibly different from adjacent visual features. *Background* views include distant objects and other objects that make up the horizon. Objects in the background eventually fade to obscurity with increasing distance. In the context of background, the skyline or the ocean can be an important visual feature because objects above this point are highlighted against the background of the sky or water. These *skylined* elements are typically more evident to the viewer because of their inherent contrast.

Visual quality is evaluated according to the relative degree of vividness, intactness, and unity within a landscape, as modified by viewer preference and sensitivity. *Vividness* is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns. *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes as well as

natural settings. *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape. High-quality views are highly vivid and relatively intact and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity (Federal Highway Administration 1981).

The following additional definitions pertain to the terminology used in this visual analysis:

- *Aesthetics* generally refers to the identification of visual resources and the quality of what can be seen, or the overall visual perception of the environment.
- *Viewer sensitivity*, or viewer concern about noticeable changes to views, is based on the visibility of a scenic resource, proximity of viewers to the resource, relative elevation of viewers to the resource, frequency and duration of views, number of viewers, and types and expectations of the viewers.
- *Viewshed* is all of the surface area visible from a particular location or sequence of locations (e.g., roadway or trail).
- *Vista areas* are “points of natural visual beauty, photo vantage points, and other panoramas,” as depicted in the Port Master Plan (PMP) (District 2012:28)

4.1.2 Existing Conditions

4.1.2.1 Aesthetic Character and Site Features

Existing fireworks display events originate from barges, flight decks, and/or piers adjacent to and/or in the waters of North San Diego Bay, including areas adjacent to Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), Glorietta Bay in Coronado, NASSCO ship repair facility, and the Imperial Beach Oceanfront. In addition, the proposed new fireworks display events would originate from barges adjacent to the National City and Chula Vista Bayfronts.

The sites for the existing and proposed new fireworks display events comprise primarily the waters within the Bay, consisting of calm waters that are characteristic of an enclosed and protected bay (versus the rougher waters of an open ocean). These sites are immediately surrounded by other maritime and recreational boating uses. In general, views of watercraft, ranging from small recreational craft to large vessels, such as container and general cargo vessels as well as U.S. naval vessels, are present primarily within foreground and middleground views. The remaining site occurs over the Pacific Ocean near Imperial Beach, consisting of open ocean and the beach. Along the oceanfront, views of watercraft, such as those seen in the Bay, are also present; however, they are generally farther out and part of the background views. All of these waterside sites are surrounded by or adjacent to developed, urbanized waterfronts. The aesthetic character of these waterfront areas is described below.

North San Diego Bay

Barges, flight decks, and/or piers used for existing fireworks display events are located within North San Diego Bay adjacent to Shelter Island, Harbor Island, and the Centre City Embarcadero. Most of

the waterfront land uses within these areas comprise tourist destinations and visitor-serving uses, such as hotels, restaurants, and marinas.

Shelter Island

Shelter Island proper is a long, narrow strip of land that is approximately 1 mile in length and less than 0.1 mile in width, connecting to the mainland at Point Loma via Shelter Island Drive. The only Fourth of July fireworks display event that currently occurs near Shelter Island is the Big Bay Boom, which entails the placement of a single temporary barge just offshore of Shelter Island. The visual character of Shelter Island is largely defined by the visitor-serving uses that occupy the island, with development concentrated along the island's western side. Development along Shelter Island is not dense, consisting primarily of low-rise (i.e., no more than three stories in height) but expansive hotels and yacht clubs and one- or two-story restaurants and retail stores that are separated from each other and/or the roadway by large surface parking lots. The buildings are contemporary in style. Many include beige or yellow stucco siding, while others have elements of island or "tiki" architectural styles, such as the use of dark woods, shutters, and/or steeply pitched and extended porch roofs.

Roadways and parking lots run the length of the middle of the island, providing public access to the waterfront parks, beaches, marinas, and boat launches. Waterfront parks, consisting primarily of wide green lawns, occupy the entire eastern side of the island, creating an open and accessible bayside area. Although the open green lawns are the most visually prominent component of the waterside parks, trees, public art (statues), play equipment, walking paths, picnic tables, and fishing piers also contribute to the views of the Bayfront areas. Several small-boat marinas with many boat slips occupy the area between Shelter Island and the mainland east and west of the segment of Shelter Island Drive that extends to the mainland. From a visual perspective, middleground and background views of small-boat marinas generally consist of a high concentration of regularly spaced (and usually white) boats topped by a forest of masts. In closer foreground views, individual features of the boats are evident, and the regular spacing of the boats is not distinguishable. The collection of masts, however, still forms a prominent and forest-like visual feature. The high concentration of masts may obscure but generally does not completely block views beyond the marinas.

Visitor-serving and recreational boating uses continue east of Shelter Island along Harbor Drive on the mainland between Shelter and Harbor islands. These uses include additional marinas, yacht sales, sportfishing services, and several restaurants. The structures housing these uses are sporadically positioned along the waterfront in one- or two-story structures of varying sizes and architectural styles and generally separated from each other by large surface parking lots. Similar to Shelter Island, there is no unifying context to this area.

Harbor Island

The shape and visual features of Harbor Island are similar to those of Shelter Island. Harbor Island proper consists of a long and narrow strip of land, approximately 1.5 miles long and less than 317 feet wide, that extends off the San Diego mainland via Harbor Island Drive. The clusters of development along Harbor Island are somewhat sparse and separated by large parking lots. In addition, Harbor Island includes several hotels that are about 10 stories in height, while other uses, primarily restaurants and marina boathouses, are generally single-story structures. A public walkway, bordered mostly by narrow strips of green lawn and the roadway, runs the entire length of Harbor Island along the Bay; however, there is a larger bayside park midway down the island's

western side. Several marinas occupy the water area between the island and the mainland along both the east and west sides of the island, creating visual elements similar to those described above for Shelter Island. Spanish Landing Park and former car rental lots occupy the landward side of the island north of the marinas. Spanish Landing Park is a long, narrow park that fronts the inlet between Harbor Island and the mainland on the western side of the island. The park includes a Bayfront promenade, picnic areas, play areas, public art, the Callaway Carillon bell tower, and a small beach. In addition, the former car rental lots occupy the eastern portion of the landward side of Harbor Island. This area has an industrial character to it. Expansive surface parking lots are dotted by small single-story warehouse buildings, out of which the car rental operations were managed. The Harbor Police Department administrative building and storage lot is also situated in this area. The promenade that begins in Spanish Landing Park continues through this side of the island; however, it is situated north of the car rental area, adjacent to North Harbor Drive; it is not directly adjacent to the Bay. The only fireworks display event that currently occurs near Harbor Island is the Big Bay Boom Fourth of July event, which entails the placement of a single temporary barge just offshore of Harbor Island.

Centre City Embarcadero

Centre City Embarcadero extends the length of San Diego Bay within the downtown San Diego area, beginning at Laurel Street on the north end (just south of San Diego International Airport [formerly known as Lindbergh Field]) and ending roughly at Park Boulevard, which is south of the Convention Center and north of the Tenth Avenue Marine Terminal. The Centre City Embarcadero is broken down into three segments: North Embarcadero, Central Embarcadero, and South Embarcadero, as described below. Overall, the visual character of the Centre City Embarcaderos reflects a diverse mix of uses and building types, which are characteristic of active waterfront and downtown environments. The specific visual character of each segment is described below.

North Embarcadero

The North Embarcadero is bounded by Laurel Street at its northern end and Seaport Village at its southern end. The landside features at the northern end are dominated by the manufacturing facilities and office buildings of Solar Turbines, an industrial use that manufactures industrial gas turbines for onshore and offshore electrical power generation, marine propulsion, and natural gas and oil production. Although somewhat obscured by vegetation, the cranes, piping, and scaffolding associated with Solar Turbines' operations are visible in the midst of the large, white, approximately two- or three-story warehouse/office buildings of the large multi-block facility.

Moving south, the industrial character of Solar Turbines transitions to institutional uses with the four-story Beaux-Arts/Spanish Revival-style San Diego County Administration Center, which features a prominent clock tower, pink stucco siding, and a red tiled roof. The building is situated in a park-like setting and surrounded by an expansive green lawn, fountains, and a splash park. The surrounding park and splash park are relatively low in profile, especially compared to the high-rise buildings in the surrounding area. The Administration Center has some visual prominence, given the long linear wading pool and fountains along the approximately 1,500-foot length of the site, which contrast with the undulating bright green, blue, and beige surfaces of the whimsically designed splash park.

The Administration Center is followed by a large hotel complex with multiple buildings that reach up to 14 stories in height. The remainder of the landside area of North Embarcadero is occupied by

administration buildings for the U.S. Navy, including multi-story buildings and single-story barracks-style facilities.

The waterfront side of North Embarcadero is characterized by concrete pedestrian pathways and wide drives/parking aisles that provide direct vehicular and pedestrian access to the piers and anchorages of the various maritime enterprises that are accessible from the North Embarcadero. Piers of varying lengths, widths, and materials punctuate the coastline of the North Embarcadero. The Grape Street Pier, which currently includes one fireworks display event per year, is located at the northern end of the North Embarcadero, within the “Crescent Zone” (the curvilinear portion of coastline that is bounded by the U.S. Coast Guard facility to the north and the Grape Street Pier to the south). The wooden pier is approximately 550 feet in length.

Various types of ships and boats also contribute to the character of the waterfront along the North Embarcadero, ranging from small to medium-sized yachts for harbor tours to the 19th-century merchant ship *Star of India*; the U.S.S. Midway Museum, which currently hosts public and private fireworks display events; and multi-story cruise ships and medium-sized commercial fishing vessels. The southern end of the North Embarcadero includes large public passive-use parks with green lawns, pedestrian pathways, public art, surface parking lots, and restaurants. Another marina is situated at the southern end of the North Embarcadero that houses a commercial fishing operation with more rustic-looking vessels that often have multiple booms with fishing nets attached. The Big Bay Boom Fourth of July event also currently occurs within the North Embarcadero area, involving the placement of a single temporary barge just offshore of the North Embarcadero.

Central Embarcadero

The Central Embarcadero includes the approximately 2-acre Seaport Village retail complex, which is situated within a waterfront park-like setting and includes a collection of low-rise (one- or two-story) freestanding buildings with a mix of architectural styles, including traditional Mexican, Spanish Revival, and Victorian. Seaport Village houses an assortment of tourist-oriented gift shops, art galleries, and restaurants, one of which is situated over the water at the northern end of the Central Embarcadero. In addition, the Central Embarcadero includes the publicly accessible Embarcadero Marina Park North, which is on a peninsula that extends into the Bay from Seaport Village. The park includes passive-use amenities such as pedestrian pathways, green lawns, benches, and shade trees. It also includes a large surface parking lot. The Big Bay Boom Fourth of July event is the only fireworks display event that currently occurs within the Central Embarcadero area. It entails the placement of a single temporary barge just offshore of the Central Embarcadero.

South Embarcadero

The South Embarcadero area is bounded on the north by the Seaport Village shopping center and on the south by the Tenth Avenue Marine Terminal. It comprises mostly hotels and the San Diego Convention Center.

Reflecting the South Embarcadero’s proximity to downtown and the San Diego Convention Center, high-rise hotels, featuring multiple glass-clad towers of 20 or more stories, are located to the southeast of Seaport Village. The two-story Convention Center is situated centrally within the South Embarcadero and dominates the majority of the area. The Convention Center features a modern architectural style, with an emphasis on horizontality. Two elongated segments extend off a central outdoor stairway. Building materials make heavy use of glass and concrete buttressing, with varying surface shapes, such as side-rounded glass walls on one story, slanted glass walls on another, and

vertical glass walls on another. The distinctive Sails Pavilion, with its white pointed fabric roof intended to be reminiscent of the sails and masts of a ship, is just north of center within the complex.

Embarcadero Marina Park South extends into the Bay from the Convention Center and, similar to its northern counterpart, includes a publicly accessible open space with a parking lot, green lawns, pedestrian pathways, and benches. This park also includes basketball courts and a public fishing pier. A recreational boat marina is located within the cove created by the two L-shaped segments that form Embarcadero Marina Park North and South. The southernmost end of the South Embarcadero area is occupied by another modern high-rise hotel. Existing fireworks display events within the South Embarcadero include those associated with the San Diego Symphony's Summer Pops concert series, which entail the placement of a single temporary barge just offshore of Embarcadero Marina Park South.

Coronado Bayfront

The northern and eastern shores of the Coronado Bayfront are located in the vicinity of existing fireworks display events. The north Bayfront area includes Naval Air Station North Island as well as residential and commercial uses. Typical of military bases, Naval Air Station North Island, which is not publicly accessible, is characterized by industrial features, including large swaths of concrete paving, used for storage areas or runways; large gray military vessels along the waterfront; and warehouse buildings. Residential uses are located east of Naval Air Station North Island and make up most of the rest of the north Bayfront area between Alameda and D Avenues. These residential uses comprise a mix of single-family houses and condominium buildings, ranging in height from one to two stories. East of D Avenue, the condominium complexes become larger, including several four-story residential buildings along 1st Street between D and B Avenues. The architecture of these buildings is reminiscent of the Hotel del Coronado, including a white façade topped by a red gabled roof pocked by frequent gabled dormers. This area also contains the Ferry Landing Marketplace, which is a collection of shops and restaurants that are housed in single-story buildings, reflecting the Cape Cod-style (cottages with natural wood siding and moderately pitched gable roofs). The marketplace is centered around the publicly accessible Coronado Ferry Landing Park, which comprises a green lawn, a small beach area fronting the Bay, and the Bayshore bikeway. Coronado Ferry Landing Park connects to Centennial Park, which is located off 1st Street and Orange Avenue via a Bayfront promenade. Centennial Park consists mostly of green lawns, walkways, and a small beach. Finally, the northeastern corner of Coronado is occupied by the sprawling complex of buildings that compose the Coronado Island Marriott Resort and Spa. The white three-story buildings are of a contemporary style. The property also includes multiple swimming pools and tennis courts.

The east Coronado Bayfront comprises large swaths of green lawns, associated with the publicly accessible Coronado Tidelands Park (north of State Route [SR] 75), which includes public art and a portion of the Bayshore bikeway, and the Coronado Municipal Golf Course (south of SR-75), as well as Glorietta Bay. Coronado Municipal Golf Course extends along the eastern shore of the Coronado Bayfront, south of the San Diego-Coronado Bay Bridge, and wraps around into Glorietta Bay. Similar to views of most golf courses, views of the Coronado Municipal Golf Course consist of an expansive manicured green lawn dotted by sand pits, trees, water features, and putting greens. The clubhouse is situated in the middle and includes a contemporary building with eclectic Mediterranean-style architectural embellishments, such as stucco siding, a red tiled roof, columns, and arched doorways.

The only fireworks display event that currently occurs along the Coronado Bayfront is the Fireworks Show Over Glorietta Bay, a Fourth of July event that entails the placement of a single temporary barge at the southeastern corner of Glorietta Bay. Glorietta Bay is a small bay, nestled within the southern end of Coronado Island where the island meets the Silver Strand. It connects to San Diego Bay at an opening within its eastern end. The entire waterside area of Glorietta Bay is occupied by a marina that includes regularly spaced white boats with tall masts. To the north/northeast, Coronado Municipal Golf Course, with characteristic expansive green lawns, sand pits, and trees, abuts Glorietta Bay. Additionally, there is a small stretch of beach along the southern tip of the golf course. The aesthetic character of the north-to-northwestern portion of the waterfront area is defined by the urban uses of downtown Coronado, including the landmark Hotel del Coronado, with its distinctive red coned roof and white stucco siding, as well as other high-rise hotels and/or condominium buildings, single-story yacht clubs, and surface parking lots. Most of the western waterfront area is dedicated to the Coronado Community Center, which includes a multi-building complex with contemporary single-story structures surrounded by parks, public art, and a swimming pool, as well as a boat launch ramp that provides public water access to Glorietta Bay. A large pier at the southern end of Glorietta Bay is occupied by an expansive U.S. Navy facility and includes a mass of many types of buildings (office, warehouse, and lodging), open storage areas, and a series of smaller piers to accommodate smaller naval vessels.

General Dynamics NASSCO Ship Repair Facility

Existing fireworks display events also occur at the NASSCO ship repair, which is located on tidelands adjacent to (west of) the Barrio Logan neighborhood, south of the San Diego-Coronado Bay Bridge and north of Chollas Creek and Naval Base San Diego. The segment of the Bay spanning from the Coronado Bay Bridge to Chollas Creek is occupied largely by ship repair yards. The character of the area is highly industrialized. Views of the area consist of numerous ship repair piers and docks, ships or ship parts in various stages of repair, cranes and other large equipment, and warehouse buildings.

Imperial Beach Oceanfront

Imperial Beach Pier is approximately 1,300 feet long and has a nautically themed fish restaurant at its western end. The Pier is surrounded by the open ocean and the beach. One fireworks display event currently takes place on the Fourth of July near the middle of Imperial Beach Pier. Along the oceanfront, views of watercraft, such as those seen in the Bay, are present; however, they are generally farther out and part of the background views. The Imperial Beach Oceanfront comprises a long (more than 1 mile) sandy beach that is bordered almost entirely by relatively dense residential development, including closely positioned one- or two-story single-family homes as well as several multi-story (not exceeding four stories), multi-family residential buildings. Small commercial uses, such as small restaurants, boutique shops, and hotels, are also near the waterfront, although these tend to be behind residential uses along Seacoast Drive.

National City Bayfront

Bayfront uses within National City are almost entirely industrial, with large portions dedicated to a U.S. Navy base and the National City Marine Terminal. The aesthetic character, therefore, is dominated by a smattering of wide low-profile (two- or three-story) warehouses. Concrete paving in the form of very large surface parking lots and other open storage areas also dominates the visual character of the area. Very little landscaping or other sources of greenery are available, with the

exception of Pepper Park, the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street fill to the south, minimal landscaping along the roadways, and some recreational fields within the naval base, which is not publicly accessible.

Chula Vista Bayfront

Large portions of the northern and southern Chula Vista Bayfront are undeveloped and dedicated to wildlife reserves and marshes. The northern and southern portions, which are not currently publicly accessible, are partially reserved for a wildlife buffer and, as such, appear as a natural vegetated landscape. The southern portion is occupied by a saltworks operation, which is distinguished by the vivid colors of the salt evaporation ponds. The colors are due to variable algal and salinity concentrations. The middle portion of the Chula Vista Bayfront is occupied by Bayfront parks, featuring green lawns, pedestrian pathways, picnic benches, boat launches, expansive surface parking lots, public art, a boat and superyacht refit and repair facility, a recreational vehicle park, two large marinas, and the Chula Vista Wildlife Reserve.

4.1.2.2 Designated Scenic Views

The PMP considers the scenic quality of the land within its jurisdiction and establishes District policies for maintenance of important public views. Within many of its precise plans, the District has identified vista areas—key public viewpoints from which to enjoy the scenic beauty of the Bay and other visible District features. Vista areas within the District’s jurisdiction are identified on the PMP’s precise plans by arrow symbols placed on the vista areas that point toward the intended view. The Public Recreation portion of Section III of the PMP explains that these symbols identify “points of natural visual beauty, photo vantage points, and other panoramas. It is the intent of [the PMP] to guide the arrangement of development on those sites to preserve and enhance such vista points” (District 2012:28).

All of the existing fireworks display events are located within San Diego Bay and the Imperial Beach Oceanfront area near land that is publicly accessible (e.g., waterfront promenades, beaches). Additionally, the proposed new fireworks display events would be located within South San Diego Bay, along the National City and Chula Vista Bayfronts. As such, all of the existing and proposed fireworks display events, with the exception of the proposed display along the National City Bayfront, are or would be visible from multiple designated vista areas. The only designated vista area within the National City Bayfront is at Pepper Park, which is adjacent to the Sweetwater River, but approximately 0.45 mile from the Bayfront and separated from the Bayfront by the National City Marine Terminal. Finally, there are no designated vista areas in the vicinity of the NASSCO facility.

4.1.2.3 Scenic Highways

SR-75 is a state-designated scenic highway where it crosses the San Diego-Coronado Bay Bridge and travels down the Silver Strand into Imperial Beach (Caltrans 2011). Views from the 200-foot-tall Coronado Bay Bridge are expansive in all directions. However, the bridge is open only to motor vehicles, there are no pullouts for viewing, and stopping on the bridge is prohibited by law. Also, the bridge has a speed limit of 50 miles per hour and a concrete guardrail that limits the view from lower-profile vehicles. Regardless, existing and proposed new fireworks display events occurring within San Diego Bay currently are or would be visible from the bridge. Views of existing fireworks display events occurring at the Imperial Beach Oceanfront may be visible on the horizon from the

portion of SR-75 that extends into Imperial Beach before turning east and connecting with Interstate 5; however, SR-75 is more than 0.5 mile inland from the oceanfront, and views are obstructed by the restricted naval property, houses, and other urban development. As such, views of the Imperial Beach Oceanfront from SR-75 are largely obscured.

4.1.2.4 Existing Lighting and Glare

Existing Ambient Light and Glare Conditions

There are two typical types of light intrusion. First, light that emanates from the interior of structures and passes out through windows. Second, light that projects from exterior sources, such as street, security, and landscape lighting. Light spillover is typically defined as the presence of unwanted or misdirected light on properties adjacent to the property being illuminated. Light spillover can be a nuisance in adjacent areas and diminish views of the clear night sky.

Glare is described as the distraction, discomfort, or impairment of vision caused by extreme contrasts in the field of vision where light sources, such as sunlight, lamps, luminaries, or reflecting surfaces, are excessively bright in relation to the general brightness of the surroundings. Glare also results from sunlight reflecting off flat building surfaces, with glass typically contributing the highest degree of reflectivity.

Lighting

Within the waters of San Diego Bay and the Pacific Ocean near Imperial Beach, existing sources of nighttime lighting are limited primarily to boats, such as harbor cruise yachts, container shipping vessels, and recreational boats.

The land area surrounding the Bay and the Pacific Ocean near Imperial Beach is highly urbanized and supports a mixture of commercial, industrial, recreational, residential, civic, and marine-related uses. The existing nighttime lighting environment surrounding the sites of the existing and proposed new fireworks display events consists mainly of ambient light produced by recreational facilities, interior and exterior building (residential, office, and commercial) lighting, highly ordered/structured lighting from streetlights, and transitory lighting from headlights on automobiles and transit-related (i.e., buses and trolleys) vehicles.

Commercial developments, such as large-scale hotel developments, also contribute to ambient lighting conditions. Exterior security lighting and interior operational lighting at hotels cause light spillover, which illuminates areas along the Bayfront.

Other significant sources of existing nighttime lighting include commercial, residential, and transit-related development in the downtown community. Several high-rise hotels and residential buildings contribute to ambient nighttime lighting conditions in the form of spillover light from exterior and interior security and operational lighting. Also, Petco Park, just north of the South Embarcadero, is a major contributor to nighttime lighting during the baseball season from both normal stadium lighting and occasional fireworks displays. Finally, transitory nighttime lighting from headlights on automobiles and transit-related (i.e., buses and trolleys) vehicles further contributes to ambient lighting conditions in the area. Overall, because the area is highly urbanized, existing ambient lighting levels are considered to be high.

Glare

A primary source of existing daytime glare at the sites of existing and proposed new fireworks display events is sunlight reflecting off the open waters of the Bay and Pacific Ocean. Glare from horizontal water surfaces is most prevalent in the early and late portions of the day when reflected sunlight is most likely to affect viewers. Another scattered source of daytime glare is sunlight reflecting off windows of boats docked at the marina, which produces minor amounts of glare.

Offsite glare conditions, which are not as prevalent as nighttime lighting, are generally moderate in the area surrounding the sites of the existing and proposed displays. The most noticeable sources of glare are the numerous mid- and high-rise hotels and residential developments inland of the sites of the existing and proposed displays. Glare occurs as a result of light reflecting off the architectural finishes of buildings. Glare conditions are most severe when light reflects off glass surfaces. Most of these high-rise buildings have highly finished surfaces, including window and glass façades, which result in noticeable amounts of daytime glare. Other sources of glare include sunlight reflecting off vehicles and delivery trucks traveling along Harbor Drive, Convention Way, and other surrounding roadways, which also produce minor amounts of transitory glare. Overall, existing daytime glare conditions surrounding the Bay and Imperial Beach Oceanfront are considered to be moderate.

Existing Fireworks Display Events Light and Glare Conditions

A number of fireworks display events currently occur within San Diego Bay and the Imperial Beach Oceanfront throughout the year. These existing fireworks display events occur for approximately 3 to 20 minutes each, depending on the show, and primarily at night, with the exception of the Our Lady of the Rosary Church annual procession, which occurs during daytime hours.¹ These existing fireworks display events occur in highly urbanized areas along San Diego Bay and the Imperial Beach Oceanfront where, as discussed above, the ambient nighttime lighting levels are considered high. Generally, the fireworks are launched to a height where their light considerably exceeds normal ambient lighting levels, creating brief but very bright flashes of light for the duration of the display, particularly during the finales when higher concentrations of fireworks are set off at one time. Existing fireworks display events are visible from sensitive land uses in the vicinity of the displays, such as public parks and open space, roadways, and residences.

Generally, park users are considered sensitive receptors to increases in light and glare because increases in light and glare can interfere with recreational activities. However, the majority of the existing fireworks display events are intentionally located proximal to public parks and open spaces in the Bay in order to maximize the viewing area of the fireworks display events. The vast majority of park visitors who are present during existing nighttime fireworks display events are there to view the displays, especially during the Fourth of July. For existing non-Fourth of July fireworks display events, such as those associated with the San Diego Symphony Summer Pops concerts, U.S.S. Midway Museum, and NASSCO, the displays constitute a brief (no more than 5- to 10-minute) increase in light and glare in the immediate vicinity of the event. However, these displays also make use of smaller shell sizes, resulting in less height and a smaller area of visibility. Furthermore, for the Symphony Summer Pops concert series, access to a portion of Embarcadero Marina Park South requires paid admission to attend the concerts and, as such, many users at Embarcadero Marina Park South are there for the Symphony Summer Pops concerts and expect to see the accompanying

¹ During the fireworks display event for the Our Lady of the Rosary Church annual procession, firework detonation occurs intermittently during the 80-minute procession.

fireworks display. In addition, as noted above, the Our Lady of the Rosary Church annual procession fireworks display event occurs during daylight hours, and the additional light generated by the fireworks is barely discernible from the bright ambient light conditions of any given day.

Residential uses are also considered sensitive receptors to increases in light and glare. The majority of the existing fireworks display events are at least 0.5 mile from the nearest residential uses. Although most of the fireworks display events are likely visible from the yards, rooftops, or windows of nearby residential uses in the vicinity of the displays, the light and glare generated by fireworks are not so intense as to intrude into the structures to the point that typical nighttime activities are disturbed (such as sleeping, watching television, etc.). The Fourth of July Imperial Beach Fireworks Show occurs near the middle of the Imperial Beach Pier, which is approximately 0.2 mile from nearby residential uses. This fireworks display event currently occurs once a year on the Fourth of July, which is a day on which fireworks display events historically occur. Any residents living in proximity to the Imperial Beach Pier who are disturbed by fireworks know to plan for them by being away or keeping windows and curtains closed. In addition, the fireworks display event occurring at the end of the Grape Street Pier for the Our Lady of the Rosary Church annual procession is approximately 0.3 mile from the nearest residential uses. However, this fireworks display event occurs during the day. Fireworks are detonated intermittently during the 80-minute processional as opposed to a concentrated period of time. Several fireworks display events are held at the U.S.S. Midway Museum throughout the year, which is approximately 0.2 mile from the nearest residential uses. These fireworks display events are generally associated with private events and take place either from the flight deck or off a barge within the North Embarcadero area. Additionally, two existing fireworks display events also occur at the NASSCO ship repair. Flashes of light produced by the fireworks are relatively infrequent and diminished by the already-bright ambient light of daylight. Finally, although light and glare produced by the existing fireworks display events are noticeable along nearby roadways, they are not so substantial that they impair driving or creates unsafe conditions.

4.1.3 Applicable Laws and Regulations

4.1.3.1 State

California Scenic Highway Program

The California Department of Transportation manages the California Scenic Highway Program, which was created in 1963 by the California legislature to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are eligible for designation as scenic highways or that have been designated as such. The designation of a highway as scenic is based on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes on the travelers' enjoyment of the view. State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

4.1.3.2 Local

Port Master Plan

Section II of the PMP sets forth planning goals and related policies for development and operation of land within the District's jurisdiction. The goals and related policies pertinent to the aesthetic resources of the proposed project are presented below.

Goal II. The Port District, as trustee for the people of the State of California, will administer the tidelands so as to provide the greatest economic, social, and aesthetic benefits to present and future generations.

Goal VIII. The Port District will enhance and maintain the bay and tidelands as an attractive physical and biological entity.

- Each activity, development, and construction should be designed to best facilitate its particular function, which function should be integrated with and related to the site and surroundings of that activity.
- Views should be enhanced through view corridors, the preservation of panoramas, accentuation of vistas, and shielding of the incongruous and inconsistent.
- Establish guidelines and standards facilitating the retention and development of an aesthetically pleasing tideland environment free of noxious odors, excessive noise, and hazards to the health and welfare of the people of California.

Precise Plans

Section IV of the PMP provides specific guidance for land development within 10 geographic planning districts. These 10 precise plans include maps for each district, tables showing the acreages of various uses within the districts, and lists of projects planned within the districts. The precise plans also identify vista areas within each planning district that indicate points of natural visual beauty, photo vantage points, and other panoramas to be preserved and enhanced by the arrangement of development. Fireworks display events currently occur or are proposed within and/or adjacent to Planning District 1, Shelter Island/La Playa; Planning District 2, Harbor Island/Lindbergh Field; Planning District 3, Centre City Embarcadero; Planning District 4, Tenth Avenue Marine Terminal; Planning District 5, National City Bayfront; Planning District 6, Coronado Bayfront; Planning District 7, Chula Vista Bayfront; and Planning District 10, Imperial Beach Oceanfront. The PMP identifies multiple vista areas that have views of the existing and proposed fireworks display events within each of these planning districts, with the exception of the National City Bayfront, for which there is only one vista area.

4.1.4 Project Impact Analysis

4.1.4.1 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining the significance of impacts associated with aesthetics and visual quality resulting from implementation of the proposed project. The determination of whether an

aesthetics and visual quality impact would be significant is based on the thresholds described below and the professional judgment of the District as lead agency, supported by the recommendations of qualified personnel at ICF, all of which are based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following:

1. Have a substantial adverse effect on a scenic vista, including, but not limited to, the vista areas designated by the District in the PMP.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. Substantially degrade the existing visual character or quality of the site and its surroundings.
4. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

As discussed in the Initial Study/Environmental Checklist (Appendix A of this Draft EIR), implementation of the proposed project would have less-than-significant impacts on scenic vistas and the visual character and quality of the sites and no impacts on scenic resources within a state scenic highway. Those conclusions and the rationale that supports them are summarized in Chapter 6, Section 6.4, *Effects Not Found to Be Significant*. Therefore, only Threshold 4 is discussed in the impact analysis that follows.

4.1.4.2 Project Impacts and Mitigation Measures

Threshold 4: Implementation of the proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Impact Discussion

The following impact analysis describes the specific impacts from new sources of substantial light or glare, associated with the proposed new fireworks display events, that would adversely affect day or nighttime views in the area.

Proposed New Fireworks Display Events

The proposed project includes the addition of up to four new fireworks display events per year along the National City and Chula Vista Bayfronts within south San Diego Bay. These proposed new fireworks display events would occur for approximately 3 to 20 minutes each, depending on the display. These proposed new fireworks display events would occur only at night, in highly urbanized areas along San Diego Bay where the ambient nighttime lighting levels are considered high. Generally, the fireworks would be launched to a height where their light would exceed the normal ambient lighting levels and create brief but very bright flashes of light for the duration of the show, particularly during the finales when higher concentrations of fireworks are set off at one time. As such, the proposed new fireworks display events would result in new sources of substantial light in the project areas for a very short period of time.

Although the proposed new fireworks display events would be visible from sensitive land uses, such as public parks and open space, roadways, and residences, in the vicinity of the displays, the light

generated by the fireworks would not result in substantial spillover light onto nearby uses such that those uses would be adversely affected (for impacts on biological resources, see Section 4.3, *Biological Resources*, of this Draft EIR).

As discussed in Section 4.1.2.4, above, park users are considered sensitive receptors to increases in light and glare because increased light and glare can interfere with recreational activities. However, as with the existing fireworks display events, the proposed new fireworks display events that would occur near National City and Chula Vista would intentionally be located near public parks and open spaces, such as Pepper Park in National City or Bayside Park in Chula Vista, in order to maximize the viewing area of the fireworks display events. The vast majority of park visitors who are present during nighttime fireworks display events are there to view the displays, especially during Fourth of July fireworks display events. Therefore, they would not be adversely affected by the proposed new Fourth of July fireworks display events. For the proposed new non-Fourth of July fireworks display events that would occur along the Chula Vista Bayfront, the displays would constitute a brief (approximately 5-minute) increase in light and glare in the immediate vicinity of the display, which would not result in a substantial disruption to recreational users of the park. As such, impacts on users of parks and open space during the proposed new fireworks display events would be less than significant.

Regarding effects on residential uses, the proposed new fireworks display event that would occur along the National City Bayfront would be at least 1 mile from the nearest residential uses, while the proposed new fireworks display events that would occur along the Chula Vista Bayfront would be approximately 0.75 mile from the nearest residential uses (east of Interstate 5). Although the proposed new National City and Chula Vista Bayfront fireworks display events would most likely be visible from the yards, rooftops, or windows of nearby residential uses, the light and glare would not be so intense as to intrude into the structures to the point that typical nighttime activities would be disturbed (such as sleeping, watching television, etc.). Overall, the proposed new fireworks display events would result in less-than-significant impacts on residential uses associated with light and glare.

Similarly, although the light and glare produced by the fireworks display events would be noticeable along nearby roadways, such as Interstate 5 in both National City and Chula Vista, they would not be so substantial that they would impair driving or create unsafe conditions.

Finally, the proposed new fireworks display events would not result in adverse effects on views in the area. Light generated by the fireworks would diminish almost immediately, and any momentary interruption of nighttime views would be almost immediately restored. Therefore, the proposed project would not result in an adverse impact on day or nighttime views related to the creation of a new source of light or glare. Impacts would be less than significant, and no mitigation measures are required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events that create a new source of substantial light or glare. Therefore, the proposed ordinance would not result in any change to the existing condition. As such, the effects of the proposed ordinance on existing fireworks display events would not create a new source of substantial light or glare that would adversely affect day or nighttime views. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not result in an adverse impact on day or nighttime views related to the creation of a new source of light. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not create a new source of substantial light or glare that would adversely affect day or nighttime views. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

4.2.1 Overview

This section describes the existing conditions and applicable laws and regulations for air quality and health risk. The section also discusses the proposed project’s potential to increase air pollutant emissions in the region. Impacts on air quality are considered significant if the proposed project were to (1) conflict with or obstruct implementation of the applicable air quality plan, (2) violate any air quality standard or contribute substantially to an existing or projected air quality violation, (3) result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard, (4) expose sensitive receptors to substantial pollutant concentrations, or (5) create objectionable odors affecting a substantial number of people.

Table 4.2-1 summarizes the significant impacts and mitigation measures discussed in this section.

Table 4.2-1. Summary of Significant Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
<p>Impact-AQ-1: Emissions in Excess of PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events</p>	<p>MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events with Compliance with the Conditions of the Proposed Ordinance, which require the new Fourth of July fireworks display events to not exceed 400 pounds each.</p> <p>MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance, which require truck delivery to not exceed 3 minutes of idling.</p>	<p>Less than Significant</p>	<p>The proposed ordinance contains conditions of approval intended to reduce and minimize air quality impacts associated with fireworks display events.</p> <p>The conditions would require limiting the size of overlapping Fourth of July fireworks display events to 400 pounds each, which reduces PM2.5 emissions below significance.</p> <p>In addition, the proposed ordinance includes air quality-related conditions such as requiring delivery trucks to not exceed 3 minutes of idling and using alternative fireworks that would burn cleaner and produce less smoke, which would provide some reduction in emissions.</p>

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
<p>Impact-AQ-2: Cumulative Emissions in Excess of PM2.5 Thresholds During Combined New Fourth of July Fireworks Display Events</p>	<p>Implement MM-AQ-1 and MM-AQ-2.</p>	<p>Less than Significant</p>	<p>The proposed ordinance contains conditions of approval intended to reduce and minimize air quality impacts associated with fireworks display events.</p> <p>The conditions would require limiting the size of overlapping Fourth of July fireworks display events to 400 pounds each, which reduces PM2.5 emissions below significance.</p>

4.2.2 Existing Conditions

4.2.2.1 Climate and Atmospheric Conditions

Regional

San Diego Bay and the Imperial Beach Oceanfront are within the San Diego Air Basin (SDAB), which covers all of San Diego County. The SDAB is bordered by the Pacific Ocean to the west, the South Coast Air Basin (SCAB) to the north, the Salton Sea Air Basin to the east, and the U.S.–Mexico border to the south.

The climate in Southern California, including the SDAB, is controlled largely by the strength and position of a subtropical high-pressure cell over the Pacific Ocean. Areas within 3–5 miles of the coast, including the project site, experience moderate temperatures and comfortable humidity (SDAPCD 2010a). Precipitation is mostly limited to a few storms during the winter season. Winds in the vicinity of the project site usually are driven by the dominant land/sea breeze circulation system. During the day, regional wind patterns are dominated by onshore sea breezes. At night, wind generally slows, remains still, or reverses direction, traveling toward the sea.

The atmospheric conditions of the SDAB contribute to the region’s air quality conditions. Because of its climate, the SDAB experiences frequent temperature inversions. Typically, temperature decreases with height. However, under inversion conditions, temperature increases as altitude increases. Temperature inversions prevent the air close to the ground from mixing with the air at higher elevations. As a result, air pollutants are trapped near the ground. During the summer, the

interaction between the ocean surface and the lower layer of the atmosphere creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons (HC) and nitrogen oxides (NO_x) react under strong sunlight and temperature, creating smog. Light and daytime winds, primarily from the northwest, further aggravate this condition by driving the air pollutants inland toward the warmer foothills. During the fall and winter, elevated carbon monoxide (CO) and NO_x levels usually occur on days with summer-like conditions (SDAPCD 2010b).

High air pollution levels in coastal communities of San Diego can often occur when polluted air from the SCAB, particularly from Los Angeles, travels southwest over the ocean at night and is brought on shore into San Diego by the sea breeze during the day. Smog transported from the SCAB is a key factor on more than 50 of the days San Diego exceeds clean air standards. Ozone (O₃) and its precursor emissions (HC and NO_x) are transported to San Diego during relatively mild Santa Ana weather conditions. During strong Santa Ana weather conditions, however, pollutants are pushed away from San Diego far out to sea. When smog is blown in from the SCAB at ground level, the highest O₃ concentrations are measured at coastal and near-coastal monitoring stations. When the transported smog is elevated, coastal sites may be passed over, and the transported ozone is measured farther inland and on the mountain slopes (SDAPCD 2010b).

Local

The proposed ordinance will apply to existing and proposed new fireworks display events in the northern portion of San Diego Bay, portions of southern San Diego Bay, and the Imperial Beach Oceanfront. In establishing background conditions, information from nearby meteorological and pollution monitoring stations is used to define climatic and air quality conditions in the project area. Pollution monitoring stations are discussed in Section 4.2.2.2 below.

The weather station closest to northern San Diego Bay is the San Diego/Lindbergh Field Station. High and low temperatures in summer average 74°F and 64°F and in winter average 65°F and 49°F, respectively (WRCC 2016a). Total annual precipitation at Lindbergh Field averages 10.13 inches (WRCC 2016b). Eighty-five percent of the rainfall occurs from November through March, with wide variations taking place in monthly and seasonal totals (NOAA 2004). Precipitation is rare in the summer months, as summer rainfall averages only 0.13 inch per year (WRCC 2016b).

The project proposes four new fireworks display events: three displays along the Chula Vista Bayfront and one Fourth of July display along the National City Bayfront. These fireworks display events are along the southern portion of San Diego Bay. The weather station closest to these fireworks display events is the Chula Vista station, which is approximately 4.5 miles to the southeast of the anticipated barge location for the National City fireworks display event, approximately 3.7 miles east of the anticipated barge location for the Chula Vista fireworks display event, and approximately 5.5 miles northeast of the existing Fourth of July Imperial Beach Show. The prevailing climatic conditions at Chula Vista are similar to San Diego/Lindbergh Field, as high and low temperatures in summer average 72°F and 62°F and in winter average 65°F and 45°F (WRCC 2016c), and total annual precipitation at averages 9.73 inches (WRCC 2016d).

Existing fireworks display events within the northern San Diego Bay portion of the project area are in the vicinity of two wind monitoring stations operated by the San Diego Air Pollution Control District (SDAPCD): Perkins Elementary School and San Diego/Lindbergh Field. Wind monitoring data recorded at the San Diego/Lindbergh Field Station indicate the predominant wind direction is

out of the west–northwest prominence at 6.33 miles per hour (mph) (2.83 meters per second [m/s]) with calm winds present approximately 0.84 percent of the time. During the most active fireworks display events season (June 1 through September 30), winds trend more west by northwest with periodic southern and northern winds, averaging 6.71 mph (3.00 m/s) with calm winds present approximately 0.55 percent of the time (Reeve pers. comm.). Winds at night (8 p.m.–10 p.m.) during the most active fireworks display events season are similar to the daily average—trending out of the west-northwest with periodic southern and northern winds—but at lower speeds (5.68 mph, or 2.54 m/s) than the daily average (Reeve pers. comm.). Wind monitoring data recorded at Perkins Elementary School indicate a prominence of westerly winds with periodic southwest winds that average 3.85 mph (1.72 m/s), with calm winds present approximately 13.3 percent of the time. During the most active fireworks display event season (June 1 through September 30), winds trend similar to the average over the year but are slightly stronger (4.81 mph, or 2.15 m/s) with calm winds present approximately 10.13 percent of the time. Winds at night (8 p.m.–10 p.m.) during the most active display season trend more west-northwest with periodic southwest winds, but winds tend to be lighter (3.80 mph, or 1.70 meters per second) than the daily average (Reeve pers. comm.). Wind velocity and direction varies over short distances, varies seasonally, and varies temporally throughout the day.

Fireworks display events within the southern ports of San Diego Bay, including the Fourth of July Imperial Beach Fireworks Show, are in the vicinity of the Chula Vista wind monitoring station, which is also operated by SDAPCD. Wind monitoring data recorded at Chula Vista indicate a prominence of westerly and southwesterly winds that average 3.85 mph (1.72 m/s), with calm winds present approximately 13.30 percent of the time. During the most active fireworks display event season (June 1 through September 30), winds trend similar to the average over the year but are slightly stronger (4.00 mph, or 1.79 m/s) with calm winds present approximately 10.13 percent of the time. Winds at night (8 p.m.–10 p.m.) during the most active display season trend west and southwest, but winds tend to be lighter (2.68 mph, or 1.20 meters per second) than the daily average (Reeve pers. comm.). While the Chula Vista station displays a more southwesterly pattern than the Lindbergh Field and Perkins School stations, each wind monitoring station displays a similar pattern; nighttime winds during the most active fireworks display events season tend to be calmer, which can affect how particulate emissions generated during fireworks display events disperse through the region. A more detailed description of meteorology and how winds affect particle dispersion in the Health Risk Assessment (HRA) is provided in Appendix E of this Draft EIR. Wind roses depicting wind directions, speeds, and frequency for the above-mentioned stations and time periods are also shown in Appendix E.

4.2.2.2 Air Quality Conditions

Regional

The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to designate areas within the country as either attainment or nonattainment for each criteria pollutant based on whether the national ambient air quality standards (NAAQS) have been achieved. Similarly, the California CAA requires the California Air Resources Board (ARB) to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the California Ambient Air Quality Standards (CAAQS) have been achieved. If a pollutant concentration is lower than the state or federal standard, the area is classified as being in attainment for that

pollutant. If a pollutant concentration is higher than the state or federal standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified. Under the California CAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. The attainment status of San Diego County is summarized in Table 4.2-2.

Table 4.2-2. Federal and State Attainment Status for San Diego County

Criteria Pollutant	Federal Designation	State Designation
Ozone (O ₃) (8-hour)	Nonattainment – Marginal	Nonattainment
Carbon Monoxide (CO)	Attainment/Maintenance	Attainment
Respirable Particulate Matter (PM ₁₀)	Attainment	Nonattainment
Fine Particulate Matter (PM _{2.5})	Unclassifiable/Attainment	Nonattainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified ¹
Visibility	(No federal standard)	Unclassified

Sources: ARB 2014, 2015; SDAPCD 2016a.

¹ At the time of designation, if the available data do not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

Local

SDAPCD maintains and operates a network of ambient air monitoring stations throughout the county. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and NAAQS. Similar to the discussion of local climate and atmospheric conditions in Section 4.2.2.1 above, multiple monitoring stations are used to define background conditions for displays that occur in those areas. The ambient monitoring station closest to the northern and central San Diego Bay, where almost all of the existing firework display events occur, is the San Diego–Beardsley Street station (ARB 80142), which is adjacent the Perkins Elementary School in the Barrio Logan neighborhood.

The ambient monitoring station closest to the existing fireworks display event along the Imperial Beach Oceanfront and proposed new displays along the National City and Chula Vista Bayfronts is the Chula Vista station (ARB 80114). However, because attainment status is assigned for the entirety of San Diego County, and the largest fireworks display events occur in the San Diego Bay portion of the project area, ambient monitoring information from the San Diego–Beardsley Street station is considered representative of the fireworks display events in the northern and central parts of San Diego Bay, while the Chula Vista–East J Street station is considered representative of the proposed new fireworks display events in the southern parts of San Diego Bay.

Concentrations of pollutants from the nearby monitoring stations over the last 3 years (2013–2015) of complete data are presented in Table 4.2-3. Over the previous 3 years of available data, monitoring has shown the following pollutant concentrations trends at the San Diego–Beardsley Street station: the 8-hour O₃ CAAQS was exceeded twice in 2014, but did not exceed the NAAQS; 24-hour particulate matter (PM) less than or equal to 10 microns in diameter (PM₁₀) CAAQS was exceeded once in 2013, but did not exceed the NAAQS; and 24-hour PM less than or equal to 2.5 microns in diameter (PM_{2.5}) NAAQS was exceeded once in 2013. No violations of the CO CAAQS or NAAQS or the nitrogen dioxide (NO₂) CAAQS or NAAQS were recorded. Over the same period of record, monitoring has shown the following pollutant concentration trends at the Chula Vista station: the 8-hour O₃ CAAQS and NAAQS were exceeded once in 2014, while no other violations were recorded.

Table 4.2-3. Ambient Background Concentrations from the San Diego–Beardsley Street Monitoring Station

Pollutant Standards	2013	2014	2015	2013	2014	2015
1-Hour Ozone (O₃)						
Maximum Concentration (ppm)	0.063	0.093 ¹	0.089	0.073	0.093	0.088
<i>Number of Days Standard Exceeded</i>						
CAAQS 1-hour (>0.09 ppm)	0	0	0	0	0	0
8-Hour Ozone (O₃)						
State Maximum Concentration (ppm)	0.053	0.073	0.067	0.062	0.072	0.066
National Maximum Concentration (ppm)	0.053	0.072	0.067	0.062	0.072	0.066
National 4 th Highest Concentration (ppm)	0.052	0.068	0.061	0.059	0.063	0.061
<i>Number of days standard exceeded</i>						
CAAQS 8-hour (>0.070 ppm)	0	2	0	0	1	0
NAAQS 8-hour (> 0.075 ppm)	0	0	0	0	1	0
Carbon Monoxide (CO)						
Maximum Concentration 8-hour Period (ppm)	2.1	1.9	1.9	-	-	-
Maximum Concentration 1-hour Period (ppm)	3.0	2.7	2.6	-	-	-
<i>Number of days standard exceeded</i>						
NAAQS 8-hour (≥9 ppm)	0	0	0	-	-	-
CAAQS 8-hour (≥9.0 ppm)	0	0	0	-	-	-
NAAQS 1-hour (≥35 ppm)	0	0	0	-	-	-
CAAQS 1-hour (≥20 ppm)	0	0	0	-	-	-
Nitrogen Dioxide (NO₂)						
Maximum 1-hour Concentration (ppm)	0.072	0.075	0.062	0.057	0.055	0.049
Annual Average Concentration (ppm)	14	13	14	11	11	10
<i>Number of Days Standard Exceeded</i>						
CAAQS 1-Hour (0.18 ppm)	0	0	0	0	0	0
NAAQS 1-Hour (0.100 ppm)	0	0	0			

Pollutant Standards	2013	2014	2015	2013	2014	2015
Suspended Particulates (PM10)						
State Maximum 24-hour Concentration ($\mu\text{g}/\text{m}^3$)	92.0	41.0	54.0	40.0	39.0	45.0
National Maximum 24-hour Concentration ($\mu\text{g}/\text{m}^3$)	90.0	40.0	53.0	38.0	38.0	46.0
State Annual Average Concentration (CAAQS = $20 \mu\text{g}/\text{m}^3$)	25.4	23.8	23.2	22.7	22.9	19.7
<i>Number of Days Standard Exceeded</i>						
CAAQS 24-hour ($>50 \mu\text{g}/\text{m}^3$)	1	0	1	0	0	0
NAAQS 24-hour ($>150 \mu\text{g}/\text{m}^3$) - <i>Expected Days</i>	0.0	0.0	0.0	0.0	0.0	0.0
Suspended Particulates (PM2.5)						
National Maximum 24-hour Concentration ($\mu\text{g}/\text{m}^3$)	37.4	36.7	44.9	21.9	26.5	33.5
24-hour Standard 98 th Percentile ($\mu\text{g}/\text{m}^3$)	19.6	24.8	19.6	18.0	19.3	18.9
National Annual Average Concentration (NAAQS = $12.0 \mu\text{g}/\text{m}^3$)	10.3	10.1	9.3	9.4	9.2	8.3
State Annual Average Concentration (CAAQS = $12 \mu\text{g}/\text{m}^3$)	10.4	10.2	10.2	9.5	9.3	8.4
<i>Number of Days Standard Exceeded</i>						
NAAQS 24-Hour ($>35 \mu\text{g}/\text{m}^3$)	1	1	0	0	0	0

Source: ARB 2015; EPA 2015. Data compiled by ICF.

ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

¹ An exceedance is not necessarily a violation. The precision or given number of decimal places varies for each state standard and depends on how the level of the standard is specified. In this case, ozone concentrations are rounded to 2 decimal places, so 0.093 rounds to 0.09, which does not exceed the CAAQS of 0.09.

Pollutants of Concern

Criteria Pollutants

As discussed above, the federal and state governments have established NAAQS and CAAQS, respectively, for six criteria pollutants: O₃, lead, CO, NO₂, sulfur dioxide (SO₂), and PM₁₀ and PM_{2.5}. Ozone and NO₂ are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as PM₁₀, PM_{2.5}, CO, SO₂, and lead are considered local pollutants that tend to accumulate in the air locally.

The primary pollutants of concern within San Diego Bay and the Imperial Beach Oceanfront are O₃ (including NO_x and reactive organic gases [ROGs]), CO, and PM. Principal characteristics surrounding these pollutants and the hazards they present to human health are discussed below.

- **Ozone**, or smog, is a photochemical oxidant that is formed when ROG and NO_x (both by-products of the internal combustion engine) react with sunlight. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Additionally, O₃ has been tied to crop damage, typically in the form of stunted growth and premature death. O₃ can also act as a corrosive, resulting in property damage such as the degradation of rubber products. Meteorology and terrain play major roles in O₃ formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O₃ is considered a regional pollutant; high levels often occur downwind of the emission source because of the length of time between when the ROG form and when they react with light to change to O₃.
- **Organic Gases—Precursors to Ozone** include ROGs and volatile organic compounds (VOCs). HC are organic gases that are formed solely of hydrogen and carbon. ROGs include all HC except those exempted by ARB. Therefore, ROGs are a set of organic gases based on state rules and regulations. VOCs are similar to ROGs in that they include all organic gases except those exempted by federal law. Both VOCs and ROGs are emitted from incomplete combustion of HC or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of HC. Another source of HC is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint. Generally speaking, and in this analysis, ROGs and VOCs are used interchangeably to refer to the HC that are a precursor to O₃ formation.

The primary health effects of HC result from the formation of O₃ and its related health effects. High levels of HC in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate ambient air quality standards for ROGs. Carcinogenic forms of ROG are considered to be toxic air contaminants (TACs), which are described below. An example is benzene, which is a carcinogen.

- **Nitrogen Oxides** serve as integral participants in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and NO₂. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO₂ is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_x acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens. NO_x is a precursor to O₃ formation.

- **Carbon Monoxide** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.
- **Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized—inhalable coarse particles, or PM10, and inhalable fine particles, or PM2.5. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. Both PM10 and PM2.5 may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.
- **Sulfur Dioxide** is a product of high-sulfur fuel combustion. Main sources of SO₂ are coal and oil used in power stations, in industries, and for domestic heating. Industrial chemical manufacturing is another source of SO₂, which is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO₂ also can cause plant leaves to turn yellow and can erode iron and steel. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary-source emissions of SO₂ and limits on the sulfur content of fuels.

Health Effects of Criteria Air Pollutants

Criteria air pollutants are recognized to have a variety of health effects on humans. Research by ARB shows that exposure to high concentrations of air pollutants can trigger respiratory diseases, such as asthma, bronchitis, and other respiratory ailments; and cardiovascular diseases. A healthy person exposed to high concentrations of air pollutants may become nauseated or dizzy, may develop a headache or cough, or may experience eye irritation and/or a burning sensation in the chest. O₃ is a powerful irritant that attacks the respiratory system, leading to the damage of lung tissue. Inhaled particulate matter, NO₂, and SO₂ can directly irritate the respiratory tract, constrict airways, and interfere with the mucous lining of the airways. Exposure to CO, when absorbed into the bloodstream, can endanger the hemoglobin, the oxygen-carrying protein in blood, by reducing the amount of oxygen that reaches the heart, brain, and other body tissues. PM10 can bypass the body's natural filtration system more easily than larger particles and can lodge deep in the lungs, while PM2.5 particles can deposit deep in the lungs and contain substances that are particularly harmful to human health. When air pollutant levels are high, children, the elderly, and people with respiratory problems are advised to remain indoors. Outdoor exercise also is discouraged because strenuous activity may cause shortness of breath and chest pains. A brief discussion of the criteria pollutants and their effects on human health and the environment is provided in Table 4.2-4.

Table 4.2-4. Health Effects Summary of the Major Criteria Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O ₃)	<ul style="list-style-type: none"> Atmospheric reaction of organic gases with NO₂ in sunlight 	<ul style="list-style-type: none"> Aggravation of respiratory and cardiovascular diseases Irritation of eyes Impairment of cardiopulmonary function Plant leaf injury
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> Motor vehicle exhaust High temperature stationary combustion Atmospheric reactions 	<ul style="list-style-type: none"> Aggravation of respiratory illness Reduced visibility Reduced plant growth Formation of acid rain
Carbon Monoxide (CO)	<ul style="list-style-type: none"> Incomplete combustion of fuels and other carbon containing substances, such as motor exhaust Natural events, such as decomposition of organic matter 	<ul style="list-style-type: none"> Reduced tolerance for exercise Impairment of mental function Impairment of fetal development Death at high levels of exposure Aggravation of some heart diseases (angina)
Particulate Matter (PM _{2.5} and PM ₁₀)	<ul style="list-style-type: none"> Stationary combustion of solid fuels Construction activities Industrial processes Atmospheric chemical reactions 	<ul style="list-style-type: none"> Reduced lung function Aggravation of the effects of gaseous pollutants Aggravation of respiratory and cardio-respiratory diseases Increased cough and chest discomfort Soiling Reduced visibility
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> Combustion of sulfur-containing fossil fuels Smelting of sulfur-bearing metal ores Industrial processes 	<ul style="list-style-type: none"> Aggravation of respiratory diseases (asthma, emphysema) Reduced lung function Irritation of eyes Reduced visibility Plant injury Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead (Pb)	<ul style="list-style-type: none"> Contaminated soil 	<ul style="list-style-type: none"> Impairment of blood function and nerve construction Behavioral and hearing problems in children

Source: SCAQMD 2005

Toxic Air Contaminants

TACs are pollutants that have no ambient standard but pose the potential to increase the risk of developing cancer or acute or chronic health risks. The most relevant TAC associated with a typical port's activities (e.g., vessels, trucks), is diesel particulate matter (DPM). Fireworks display events, such as the existing and proposed new displays, also include other emitted TAC sources, including hexavalent chromium (Cr+6), lead (Pb), and copper (Cu), as well as certain species of VOC, including formaldehyde, acetaldehyde, and acrolein. For TACs that are known or suspected carcinogens, ARB has consistently found that there are no levels or thresholds below which exposure is risk-free.

Therefore, no NAAQS or CAAQS exist for TACs. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to the brain and nervous system, and respiratory disorders.

Sensitive Receptors

The impact of air pollutant emissions on sensitive members of the population is a special concern. Sensitive receptors are defined as locations where pollutant-sensitive members of the population may reside or where the presence of air pollutant emissions could adversely affect use of the land. ARB has identified the following people as the most likely to be affected by air pollution: children younger than 14, the elderly older than 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors (ARB 2005a). Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder-care facilities, elementary schools, and parks.

The proposed ordinance would govern existing and proposed new firework display events that originate from piers, flight decks, and/or barges adjacent to land within San Diego Bay, including adjacent to Shelter Island, Harbor Island, and the Centre City Embarcadero; Glorietta Bay in Coronado; NASSCO ship repair facility; National City Bayfront; Chula Vista Bayfront; and the Imperial Beach Oceanfront. Land uses vary widely in each of these neighborhoods and include residential areas, hospitals, daycare facilities, elder-care facilities, elementary schools, and parks. Primary viewing locations for Fourth of July fireworks display events are from adjacent parks and public spaces along San Diego Bay and the Imperial Beach Oceanfront. Viewing areas for all other non-Fourth of July fireworks displays events are generally more limited, but could include any place that has a view of the fireworks display events.

4.2.2.3 Background Air Quality and Health Risk

Background Regional Criteria Pollutant Emissions

ARB periodically develops existing and future year emission inventories for the entire state and for individual regions for the major sources of emissions in its Almanac of Emissions, including stationary sources (e.g., electric utilities, manufacturing, landfills), mobile sources (e.g., passenger vehicles, transit, goods movement), and area-wide sources (e.g., farming, windblown dust, construction). While ARB does not include emissions from fireworks display events themselves, ancillary sources, including tugs and on-road motor vehicles, are included in ARB's inventory and future year forecasts. An inventory of the most recent inventory year (2012) and future year 2020 and 2035 countywide and statewide projections is presented in Table 4.2-5 (ARB 2013). As shown, emissions of some pollutants trend downward, as regulations that are currently in place will reduce combustion-related emissions even as population increases. PM10 and PM2.5 increase slightly because even though combustion-related emissions decrease, fugitive dust from activities to support population growth (e.g., construction and demolition, farming) and vehicle travel (e.g., unpaved and paved road dust) increase, offsetting the decrease in combustion-related emissions.

Table 4.2-5. Estimate of Countywide and Statewide Emissions by Year (tons per day)

Emissions by Year	VOC	NO_x	CO	SO_x	PM10	PM2.5
San Diego County						
2012	126	114	527	2	73	20
2020	114	68	391	1	74	19
2035	111	49	359	2	77	21
Statewide						
2012	1,739	2,106	7,372	105	1,460	418
2020	1,561	1,553	5,669	82	1,502	411
2035	1,574	1,200	5,289	101	1,567	438

Source: ARB Almanac of Emissions (ARB 2013).
Notes: Totals may not add exactly due to rounding

Background Regional Toxic Air Contaminants and Health Risk

ARB operates 17 monitoring stations to monitor air toxics within major urban areas. Various TACs that are present in fireworks display events are monitored, including species of VOC (including acetaldehyde, acrolein, and formaldehyde), polycyclic aromatic hydrocarbons, and metals (including Cr+6, Cu, and Pb). Of the 20 statewide stations, two are in the SDAB: Chula Vista and El Cajon. Although these stations are not near the northern or central parts of San Diego Bay, the Chula Vista station is near the southern portion of San Diego Bay. Because the Chula Vista station is the only station within proximity of San Diego Bay that monitors air toxics, data from the Chula Vista station are assumed to be representative of the background conditions for the proposed new fireworks display events. Toxics monitoring data from the Chula Vista station are summarized in Table 4.2-6. As shown in Table 4.2-6, background air toxics are small and are generally reduced between years 2000 and 2014. Note that the toxics monitoring values reported here are from Chula Vista, which is approximately 3 miles inland at the southern end of the Bay. Based on this information, ARB estimated the overall ambient risk from all air toxics in the SDAB at 607 chances per million in 2009, the majority of which (420 chances per million) were attributed to DPM (ARB 2009). Note that DPM is not directly monitored because an accepted measurement method does not currently exist, but ARB estimates concentrations based on monitored PM10 data and the results from several studies on chemical speciation of ambient data (e.g., ratio of DPM to monitored PM10).

Table 4.2-6. Air Toxics Monitoring Data from the Chula Vista Monitoring Station

Pollutant	Year 2014			Year 2000		
	Mean	Maximum	Cancer Risk	Mean	Maximum	Cancer Risk
Copper	0.023	0.052	<1	-	0.170	<1
Hexavalent Chromium	<0.001	<0.001	6	-	<0.001	16
Lead	0.012	0.063	0.1	-	0.170	-
Formaldehyde	0.002	0.004	13	0.002	0.005	16
Acetaldehyde	0.001	0.001	3	0.001	0.002	4
Acrolein	0.001	0.002	<1	-	-	-

Source: Compiled by ICF from the ARB Annual Toxics Summaries (ARB 2016a).

Notes:

Mean and maximum concentrations of copper, chromium, and lead are provided in $\mu\text{g}/\text{m}^3$; formaldehyde, acetaldehyde, and acrolein are provided in ppm.

Toxics samples are collected over a 24-hour period (midnight to midnight) every 12 days at 18 sites (20 sites before July 1995, 21 sites from July 1995 through July 2000) throughout California. There is usually a maximum of 31 values for a given toxics substance at a given site each year (<https://www.arb.ca.gov/adam/toxics/toxuses.html>).

- = value not available

Recently, the state released the California Communities Environmental Health Screening Tool (CalEnviroScreen), which provides a relative ranking of communities based on a selected group of environmental, health, demographic, and socioeconomic indicators. Neighborhoods near the project area, including those areas to the east of the middle portions of San Diego Bay, represent some of the highest rankings (e.g., worst air quality) in the state. For example, the Barrio Logan community just west/south (census tract 6073005000) and east/north of Interstate 5 (census tract 6073004900) is within the worst 96–100 percent in the state. In the South Bay, the community just southeast of the National City Bayfront and immediately east of Interstate 5 (census tract 6073012502) is within the worst 86–90 percent in the state, while the worst community near the Chula Vista Bayfront is the community just southeast of the Chula Vista Bayfront and immediately west and east of Interstate 5 (census tract 6073012600), which is within the worst 71–75 percent in the state. Twenty-six communities in the San Diego region have been identified as disadvantaged and will be the target of cap-and-trade investment to improve public health, quality of life, and economic opportunity (Cal/EPA 2014).

Note that while the results of CalEnviroScreen provide information on background pollution that allows the state to prioritize funding resources, the scoring results are not directly applicable to project-level or cumulative impact analyses required under CEQA. As such, the information provided by CalEnviroScreen cannot substitute for analyzing a specific project's cumulative impacts as required in a CEQA environmental review (Cal/EPA 2014). The information presented herein regarding CalEnviroScreen is for illustrative purposes only.

4.2.3 Applicable Laws and Regulations

The air quality management agencies of direct importance in the county are EPA, ARB, and SDAPCD. EPA has established federal air quality standards for which ARB and SDAPCD have primary implementation responsibility. ARB and SDAPCD are also responsible for ensuring that state air

quality standards are met. The following sections discuss federal, state, and local laws and regulations applicable to the proposed project.

4.2.3.1 Federal

Federal Clean Air Act

The CAA was first enacted in 1963 and has been amended numerous times in subsequent years (1967, 1970, 1977, and 1990). The CAA establishes the NAAQS and specifies future dates for achieving compliance. The CAA also mandates that each state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met. Because the District is within the SDAB, it is in an area designated as nonattainment for certain pollutants that are regulated under the CAA.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would most substantially affect the development of the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for criteria pollutants. Table 4.2-7 shows the NAAQS currently in effect for each criteria pollutant. The NAAQS were amended in July 1997 to include an 8-hour standard for O₃ and adopt a standard for PM_{2.5}. The 8-hour O₃ NAAQS was further amended in October 2015. EPA will designate O₃ attainment and nonattainment areas in late 2017.

Exceptional Events Rule

Exceptional events are events for which the normal planning and regulatory process established by the CAA is not appropriate. An exceptional event is defined as an event that affects air quality, is not reasonably controllable or preventable, is caused by human activity that is unlikely to recur at a particular location or a natural event, and is determined by EPA through the process established in these regulations to be an exceptional event. The exceptional events rule grants EPA the authority to exclude air quality monitoring data from regulatory determinations related to exceedances or violations of NAAQS and avoid designating an area based on certain events if the state adequately demonstrates that an exceptional event has caused an exceedance or violation of an NAAQS. EPA requires states to take reasonable measures to mitigate the impacts of an exceptional event. Fireworks display events can qualify as an exceptional event provided the state adequately demonstrates that fireworks display events caused the exceedance and that fireworks display events are significantly integral to traditional national, ethnic, or other cultural events (e.g., Fourth of July celebrations, Chinese New Year celebrations, Diwali)(40 Code of Federal Regulations Parts 50 and 51).

Table 4.2-7. Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS¹	NAAQS²
Ozone (O ₃)	1 hour	0.09 ppm	--
	8 hour	0.070 ppm	0.070 ppm
Carbon Monoxide (CO)	1 hour	20 ppm (23,000 µg/m ³)	35 ppm (40,000 µg/m ³)
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide (NO ₂)	1 hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)
	Annual Arithmetic Mean	0.030 ppm	53 ppb
Sulfur Dioxide (SO ₂)	1 hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)
	24 hour	0.04 ppm (105 µg/m ³)	0.14 ppm (368 µg/m ³)
Respirable Particulate Matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³
	Annual Arithmetic Mean	20 µg/m ³	--
Fine Particulate Matter (PM _{2.5})	24 hour	--	35 µg/m ³
	Annual Arithmetic Mean	12 µg/m ³	12.0 µg/m ³
Sulfates	24 hour	25 µg/m ³	--
Lead (Pb)	30 day average	1.5 µg/m ³	--
	Calendar quarter	--	1.5 µg/m ³
	Rolling 3-Month Average	--	0.15 µg/m ³
Hydrogen Sulfide	1 hour	0.03 ppm	--
Vinyl Chloride	24 hour	0.01 ppm	--

Source: ARB 2016b

¹ The CAAQS for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀, and PM_{2.5} are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

² The NAAQS, other than O₃ and those based on annual averages, are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

ppm = parts per million by volume; ppb = parts per billion; µg/m³ = micrograms per cubic meter.

4.2.3.2 State

California Clean Air Act

The California CAA, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and set standards for other pollutants recognized by the state. In general, the California standards are more health protective than the corresponding NAAQS. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Table 4.2-7 shows the CAAQS currently in effect for each criteria pollutant.

ARB and local air districts bear responsibility for achieving California's air quality standards, which are to be achieved through district-level air quality management plans that would be incorporated into the SIP. In California, EPA has delegated authority to prepare SIPs to ARB, which, in turn, has

delegated that authority to individual air districts. ARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The California CAA substantially adds to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes the control of “indirect and area-wide sources” of air pollutant emissions. The California CAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

Diesel Fuel Regulation

With this rule, ARB set sulfur limitations for diesel fuel sold in California for use in on- and off-road motor vehicles (13 California Code of Regulations [CCR] 2281–2285; 17 CCR 93114). Harbor craft and intrastate locomotives were originally excluded from the rule, but were later included by a 2004 rule amendment (ARB 2005b). Under this rule, diesel fuel used in motor vehicles has been limited to 500 parts per million (ppm) sulfur since 1993. The sulfur limit was reduced to 15 ppm on September 1, 2006. A federal diesel rule similarly limited sulfur content nationwide to 15 ppm by October 15, 2006.

Toxic Air Contaminant Regulations

California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Toxic Air Contaminant Identification and Control Act (AB 1807) created California’s program to reduce exposure to air toxics. The Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. In August 1998, ARB identified particulate emissions from diesel-fueled engines as TACs. In September 2000, ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. As an ongoing process, ARB reviews air contaminants and identifies those that are classified as TACs. ARB also continues to establish new programs and regulations for the control of TACs, including DPM, as appropriate. Among the programs and strategies ARB has developed to reduce diesel emissions for various sources, many of these are applicable to sources within San Diego Bay, including harbor craft (tugs) for displays that have fireworks launched from barges. Other displays, such as the Fourth of July Imperial Beach Fireworks Show, Our Lady of Rosary Church Annual Procession, various U.S.S. Midway Museum displays, and the NASSCO displays, are not barge-based, so no tugs are assumed.

4.2.3.3 Local

Port of San Diego

The Port Master Plan (PMP) is the governing land use document for physical development within the District; however, there are also other District programs that apply to air quality. The District developed the Green Port Program to support the goals of the Green Port Policy, which was adopted

in 2008. The Green Port Program supports resource conservation, waste reduction, and pollution prevention. The Clean Air Program is one key area of the Green Port Program, with the primary goal of reducing air emissions from District operations at its three marine terminals: the Cruise Ship Terminal, Tenth Avenue Marine Terminal, and National City Marine Terminal. The Clean Air Program seeks to voluntarily reduce criteria pollutants and greenhouse gas (GHG) emissions from current and future District operations through the identification and evaluation of feasible and effective control measures for each category of District emissions. The District has developed various control measures geared toward reducing emissions from the greatest contributors of air pollution. The District has identified control measures to achieve a reduction of pollutants from the largest sources, including shore power (to enable ships to turn off their engines and plug into electric power while docked), truck replacement/retrofits, replacement/retrofits of cargo handling equipment, and voluntary vessel speed reductions. The Clean Air Program will continue to be refined and be adapted to future changes in District operations (District 2008).

Through efforts at the international, federal, state, and local levels, air emissions from goods movement sources at the District have been greatly reduced. For example, between the 2006 and 2012 Emission Inventories, NO_x emissions were reduced 50 percent, DPM emissions were reduced 75 percent, and SO₂ emissions were reduced 94 percent (District 2014).

San Diego Air Pollution Control District

Local air pollution control districts have the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations in San Diego County.

Regional Air Quality Strategy and State Implementation Plan

ARB, SDAPCD, and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego Regional Air Quality Strategy (RAQS) outlines SDAPCD's plans and control measures designed to attain and maintain the state standards while SDAPCD submits San Diego County's portion of the SIP, which is designed to attain and maintain federal standards. The RAQS was initially adopted in 1991 and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, 2009, and the Final 2016 RAQS Revision (for O₃ CAAQS) was adopted in December 2016. The RAQS does not currently address the state air quality standards for PM₁₀ or PM_{2.5}. SDAPCD has also developed the air basin's input to the SIP, which is required under the federal CAA for areas that are out of attainment of air quality standards. Both the RAQS and SIP demonstrate the effectiveness of ARB measures (mainly for mobile sources) and SDAPCD's plans and control measures (mainly for stationary and area-wide sources) for attaining the O₃ NAAQS. The SIP is also updated on a triennial basis. For the 8-hour O₃ standard, SDAPCD submitted its 8-hour O₃ Redesignation Request and Maintenance Plan in December of 2012 and adopted the Final 2016 O₃ Attainment Plan and the Reasonably Available Control Technology (RACT) Demonstration in December 2016. In addition, the *Measures to Reduce Particulate Matter in San Diego County* report (December 2005) proposes measures to reduce PM emissions and recommends measures for further detailed evaluation and, if appropriate, future rule development

(or non-regulatory development, if applicable), adoption, and implementation in San Diego County, in order to attain PM CAAQS.

ARB is currently working on an update to the SIP and recently released a *Proposed 2016 State Strategy* for the SIP. This strategy describes proposed state measures to achieve the reductions necessary from the mobile sector and consumer products to meet O₃ and PM_{2.5} NAAQS over the next 15 years. The 2016 SIP update will incorporate regional SIPs (to be developed) as well as the Scoping Plan Update, California's Sustainable Freight Action Plan, the Short-Lived Climate Pollutant Strategy, and implementation of Senate Bill 375. ARB notes that while existing programs have achieved tremendous success in reducing NO_x emissions, further reductions are required. Proposed SIP measures include various measures relevant to goods movement and maritime operations, including working with EPA on a low-NO_x standard and finalizing the Phase 2 GHG standard for heavy trucks; further deployments of cleaner on- and off-road technologies; working with EPA on more stringent locomotive emission standards; working with IMO on Tier 4 vessel standards; incentivizing low-emissions vessel calls; and extending at-berth requirements to all vessels (ARB 2016b).

SDAPCD Rules and Regulations

SDAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. SDAPCD develops control measures and rules for sources under SDAPCD authority, specifically stationary emission sources (including power plants, manufacturing and industrial facilities, stationary internal combustion engines, gas stations, landfills, and solvent-cleaning and surface-coating operations) and some area-wide sources (mostly residential sources, which are individually small and spread over a wide area, including water heaters, furnaces, architectural coatings, and consumer products). Typical projects that construct and operate sources under SDAPCD control are subject to the various SDAPCD rules and regulations. However, because the proposed project does not propose to construct or operate any source under the direct authority of SDAPCD, SDAPCD rules and regulations are not applicable to the proposed project. Nonetheless, some SDAPCD rules are relevant in that information presented therein is used in this analysis. For example, Regulation 2, Rule 20.2 established Air Quality Impact Analysis (AQIA) Trigger Levels, which set emission limits for non-major new or modified stationary sources, and Regulation 8, which establishes rules and procedures governing new, relocated, or modified emission units that may increase emissions of one or more TAC. While the proposed project is not necessarily subject to the requirements of either regulation, the AQIA Trigger Levels from Regulation 2, Rule 20.2, as well as the risk assessment guidelines and procedures from Regulation 8, are used in the analysis herein.

4.2.4 Project Impact Analysis

4.2.4.1 Methodology

Air quality impacts associated with the fireworks display events were assessed and quantified using industry standard methodology and peer-reviewed software tools, techniques, and emission factors. A summary of the methodology is provided below. A full list of assumptions and emission calculations can be found in Appendix E.

The analysis herein considers those sources that are directly or indirectly related to the fireworks display events. Direct effects are impacts that are a direct result of the fireworks display events and include the sources needed to operate the fireworks display events. Direct sources include the operation of the fireworks, the delivery of the fireworks and related materials, and tug and barge activity used to launch the fireworks. Indirect effects are effects that result from the proposed project but are not directly caused by project operation. Indirect sources include changes to the travel and circulation patterns on the regional roadway network from patrons accessing the fireworks display event viewing locations, usage of facilities at the fireworks display event viewing locations (e.g., water consumption, electricity consumption, and cleaning product use at bathrooms). The methodology used to estimate air quality-related impacts is discussed below and is similar to the methodology that was used to estimate GHG emissions and energy consumption, as described in Section 4.4, *Greenhouse Gas Emissions, Climate Change, and Energy*.

Background on Fireworks

Studies have found that the release of fireworks can be an important source category for atmospheric particulate matter (Vecchi et al. 2008). Research has found that fireworks can increase particulate matter (including PM10 and PM2.5) directly by emitting firework-related species and certain heavy metals, such as Cu and Pb, and other particles that include both light and heavy metals, elemental and organic carbon, and perchlorate compounds (Croteau et al. 2010). Additionally, the indirect effects of firework display events should be taken into consideration, which include re-suspended dust (if launched over land) and biomass combustion (fireworks made from paper, aerial shell, fuse, and other igniter material).

The fireworks emissions can be divided into those emissions that occur directly from the fireworks themselves and a biomass fraction, which is indirect emissions resulting from the incineration of materials made from paper and an igniter material. The direct fireworks mass fraction will be released at the top of the trajectory when the aerial shell explodes. This action is separated into a lift charge portion that occurs during initial lifting of the aerial firework followed by the release of the firework shell explosion near the top of the trajectory. The biomass (indirect) contribution is released near ground level. Each of these emission sources were explicitly modeled in estimating mass emissions and in the air dispersion model in estimating pollutant concentrations at nearby receptors.

Although firework-related emissions are relatively infrequent, they are highly concentrated and their influence can be seen in the national air quality observation network (Seidel and Birnbaum 2015). Both the direct and indirect influences of fireworks can contribute to PM10, PM2.5, and total metal emissions. In addition, fireworks can be an important source of perchlorate released into the environment, with potassium and ammonia perchlorate the most commonly used ingredient. The objective in this analysis is to quantify both the emissions and the resulting air concentrations, while fully documenting the important underlying assumptions and source of the emission factors used in the analysis. Furthermore, studies found that the sum of all gases comprise only 0.006 percent to 0.4 percent of the initial mass of fireworks (Croteau et al. 2010). Individual gaseous species, including VOC, would be even smaller. Based on this, VOC emissions from existing and future fireworks display events were assumed to be negligible and were not included in the analysis.

Fireworks Emission Sources and Source Strength Calculation

Direct Sources

Particle generation from the total combustion mass of an individual firework ranges from 5 to 13 percent of the total mass. Refined estimates of these emission factors for PM₁₀, PM_{2.5}, metals, criteria pollutants (VOC, NO_x, CO, and sulfur oxides [SO_x]), and VOC species (including formaldehyde, acetaldehyde, and acrolein) were available from the *Emission factors and exposures from ground-level pyrotechnics* scientific journal article from Croteau et al. (2010). The aerial shells from the largest existing fireworks display event, Big Bay Boom, are most similar in characteristics to the Roman Candle “B” projectile as measured following combustion testing performed in a burn room for this scientific journal article.

Indirect Sources

Tian et al. (2014) reported the fraction of the direct fireworks emissions, relative to the total PM₁₀ and PM_{2.5}, as 70.2 percent for PM₁₀ and 80.6 percent PM_{2.5}, with the remainder as biomass emissions. As such, the biomass emissions for PM₁₀ are 29.8 percent and for PM_{2.5} are 19.4 percent of the total for the size group. The net weight of pyrotechnic materials in aerial fireworks shells is typically about half their gross weight, and the amount of material available as biomass emissions was estimated as equal to the net explosive weight (or the weight of pyrotechnic materials) (Kosanke and Kosanke 1990). The biomass combustion profiles for PM₁₀ and PM_{2.5} were based on the values reported in Tian et al. (2014) and Akagi et al. (2011), respectively. Note that the “net explosive weight” shown in the Regional Water Quality Control Board permits is defined as the “the weight of all pyrotechnic compositions, explosives material, and fuse only” (22 CCR 67384.3). The “net explosive weight” does not include the paper, plastic, and inert substances that compose the shell and lifting charge. This assumption is consistent with the approach taken in Section 4.6, *Hydrology and Water Quality*.

Particle Size Distribution

The rate at which particulate matter is removed from the atmosphere and deposited to the ground is primarily a function of the particle sizes found following the explosion of the fireworks. The best information available on particle size distribution is available in a study by Khaparde et al. (2011) in which they measured the particles’ size mass distribution for eight size-bins ranging from a mean mass diameter size of 10 micrometers to 0.4 micrometer over multiple days. For purposes of this analysis, it was assumed that the particle size distribution information collected in the above-mentioned study by Khaparde et al. (2011) on October 28, 2008 during the most active fireworks display event period of the Diwali festival best corresponds to the aerial explosion firework activities during the existing and anticipated in the proposed new fireworks display events. The particle size distribution was used to model both deposition of particulate matter to the Earth’s surface and also the removal from the atmospheric mass concentration.

Amount of Fireworks

A summary of activity associated with the proposed new fireworks display events is presented in Table 3-2, and a summary of activity associated with existing fireworks display events is presented in Table 2-2. Note that the majority of the background research was performed based on the known

information and shell sizes from the 2015 Big Bay Boom event, which is the largest existing fireworks display event that occurs within San Diego Bay. Emission factors for each of the pollutants of concern was generated for the existing Big Bay Boom event, and fireworks emissions for the other fireworks display events were estimated by scaling emissions from the Big Bay Boom event by the amount of fireworks for the specific fireworks display event. The amount of fireworks for the proposed new Fourth of July fireworks display events along the National City and Chula Vista Bayfronts is assumed to be the same as the Fourth of July Imperial Beach Fireworks Show. The amount of fireworks for the proposed new non-Fourth of July fireworks display events along the Chula Vista Bayfront is assumed to be approximately 25 percent of the total pounds of fireworks for the Fourth of July Imperial Beach Fireworks Show.

Tugs and Barges

Fireworks for the proposed new fireworks display events would be launched from barges in the waters of southern San Diego Bay. Barges would be moved by tug boats to their designated locations along the Chula Vista and National City Bayfronts. The barges themselves would result in no emissions, but the tugs that move the barges would. Tug activity to move barges into place was estimated based on the distance from the Pacific Tugboats offices to the various locations throughout the Bay assuming tugs travel 6 mph, similar to in-harbor tug activity presented in the District's Emissions Inventory (District 2014). It was assumed that the tug's propulsion/main and auxiliary engines are active while moving barges into place. Tug activity to hold barges in place was based on information from the District, organizers, operators, and/or District tenants of fireworks display events and assumed that barges are active for a total of 4 hours. While holding barges in place, it was assumed that only the tug's auxiliary engines are active, while the propulsion/main engines remain off. It was assumed that the same activity to move the barges in place occurs once the fireworks display event is complete, as the barges and tugs return to Pacific Tugboat offices.

A summary of proposed new fireworks display events that are anticipated to use tugs and barges is presented in Table 3-2. As with existing fireworks display events, the barges would use tugs that are in the 400–1,100 horsepower range. The District's Emissions Inventory (District 2014) was used to find the appropriate model year and engine size for tugs that fit this horsepower range. To estimate tug emission factors, it was assumed that the average tug in this range is a 2004 model year with an 804-horsepower main engine and a 101-horsepower auxiliary engine. Tug emission factors are based on the zero-hour emission factors for model year 2004 tug engines, engine deterioration factors, fuel correction factors, useful life, and load factors for main propulsion and auxiliary tug engines as well as auxiliary barge engines based on the calculation methodology from the Port of Long Beach Inventory (Port of Long Beach 2014). It was conservatively assumed that tugs used during fireworks display events are fully deteriorated (e.g., at the end of their useful life). It is assumed that the methodology used to estimate emissions from tug and barge activity is the same for existing and proposed new fireworks display events.

Firework Material Deliveries

The fireworks are primarily manufactured overseas and are transported to the fireworks display events by truck from the port of entry. For purposes of analysis, it was assumed that firework materials are trucked from the Ports of Los Angeles and/or Long Beach to the project sites prior to or on the fireworks display event day. Emissions associated with delivery truck travel were estimated assuming a single 236-mile round-trip (118 miles one way) heavy-duty truck delivery for

each fireworks display event on the event day to and from the Port of Los Angeles. Exhaust emissions were based on emission factors from ARB's EMFAC software for heavy-duty "T7 Single Construction" tractor-trailer trucks operating in San Diego County in year 2017. Fugitive road dust emissions were based on the re-entrained paved road dust methodology from EPA (2011) along with methodological guidance published by ARB (2014).

Visitor Traffic

As noted in the memorandum provided by Chen Ryan (Appendix J), a traditional analysis of regional traffic patterns related to the fireworks display events cannot be accurately calculated for the fireworks display events due to the limitations of traffic modeling and the uniqueness of the fireworks display events. Rather, the traffic analysis focuses on how the transportation and parking demand patterns changed around San Diego Bay during sample Fourth of July and other non-Fourth of July fireworks display events, including observed changes in vehicle, pedestrian, and bicycle volumes. These volumes were counted only on the roadways and intersections providing immediate access to the viewing locations for the sample fireworks display events. In order to calculate visitor-related vehicle miles traveled (VMT), data would need to be collected that assess the number of visitors, how visitors arrived at the event, how far patrons traveled, routes taken, where patrons parked, and whether or not patrons were at the viewing locations specifically for fireworks or there for other reasons. Moreover, because the proposed new fireworks display events along the National City and Chula Vista Bayfronts do not currently occur, this data could not be collected. In discussing the air quality effects of visitor-related vehicle traffic, the analysis below provides a qualitative evaluation of background monitoring on both event and non-event days.

Studies indicate that PM concentrations in most urban areas are generally attributed to vehicle traffic, and PM concentrations diminish with distance, particularly beyond 1,000 feet (ARB 2005). Background PM concentrations are collected at the following monitoring stations in the region: Alpine, Downtown (Beardsley Street), El Cajon, Escondido, Otay Mesa, Camp Pendleton, and San Ysidro (SDAPCD 2016b). Of these stations, the only station within proximity of the project area is the Downtown (Beardsley Street) station, which is near existing fireworks display events that occur in the northern parts of San Diego Bay, particularly the Big Bay Boom event. No monitoring stations are close to the existing Fourth of July Imperial Beach Show or near the proposed new National City and Chula Vista fireworks display events. Thus, the Fourth of July Imperial Beach Show, although it is similar in size to the proposed new National City and Chula Vista fireworks display events, cannot be used to estimate the effects of the proposed new shows. However, even though the existing Big Bay Boom event is much larger and takes place in a different part of the Bay, the event does take place in proximity to a PM monitoring station (Downtown-Beardsley Street), which can be used to qualitatively assess the potential impact of the proposed project's vehicle traffic based on hourly monitoring data near an existing fireworks display event.

Health Risk Assessment

Based on a literature review, it was determined by the District that because of the short-term but highly concentrated emissions during and after fireworks display events (Seidel and Birnbaum 2015), the potential effects of key toxic pollutants present in many fireworks displays on sensitive populations viewing the displays should be analyzed.

Fireworks contain a mixture of ingredients and metals that are used to project and detonate the fireworks and generate colors. Fireworks can influence the particulate matter directly by emitting firework-related species (such as certain heavy metals) and other particles that include both light and heavy metals, elemental and organic carbon, and perchlorate compounds. Additionally, the indirect effects caused by the activities of fireworks display events should be taken into consideration. This would include re-suspended dust (if launched over land) and biomass combustion (fireworks made from paper, aerial shell, fuse, and other igniter material).

An HRA was performed to analyze the short-term (acute) health effects of the fireworks display events. In particular, the analysis was performed by using the largest existing fireworks display event, which is the Big Bay Boom. The Big Bay Boom was used to provide a comparison for all proposed new fireworks display events because the Big Bay Boom is by far the largest and most visited of the fireworks display events. Impacts from proposed new fireworks display events were estimated by scaling the Big Bay Boom fireworks display event by the new fireworks display event sizes. A detailed description of the methods and model inputs used in the HRA is provided in Appendix E of this Draft EIR.

The air quality model needed to assess the impacts from aerial fireworks display events must be capable of modeling near-instantaneous releases, atmospheric dispersion processes, and transport of the firework emissions. The standard EPA air dispersion model, AERMOD, does not have the capability to model near-instantaneous releases (i.e., releases over much less than 1 hour), nor does AERMOD include the energy from the detonation of the firework material; however, EPA does list on its Support Center for Regulatory Application the use of an alternative model intended for use in evaluating the potential air quality impacts from open burning and open detonation (OBOD) from solid propellants. The Department of Defense, U.S. Army, developed the OBOD model (version 1.3.24) to specifically address the disposal of ammunition either by burning or detonation of the munitions. OBOD uses cloud/plume rise dispersion and deposition algorithms for modeling instantaneous and quasi-continuous sources to predict the downwind transport and dispersion of pollutants released from an open detonation. This model is directly applicable for modeling firework releases after specifying the burst height of the fireworks aerial shell. Moreover, as noted in other risk assessment studies, most notably the Disneyland Health Risk Assessment (York Engineering, LLC 2007) the OBOD model was identified as the more appropriate model for the modeling of pyrotechnic displays. Note that the Disneyland study included both acute and chronic effects because the Disneyland fireworks display events occur at the same location regularly throughout the year.

OBOD was used to calculate the concentration of directly emitted criteria and TAC pollutants from the identified sources. Dispersion models such as OBOD require local meteorological parameters such as wind speed, stability class, mixing height, and temperature. Hourly averaged meteorological data from the Beardsley Street monitoring station was used as input to the OBOD model for the hour-specific event. Meteorological data for 1 week before and 1 week after the Fourth of July for the past 10 years (2007–2016) for 9 p.m. local daylight time were used to represent typical meteorology during a typical Big Bay Boom display. Over this period of record, the hourly average wind speed was 4.8 mph, wind direction was from 280 degrees (west-northwest), and the temperature was 67.5°F over the 9 p.m. to 10 p.m. time period.

OEHHA has established guidelines for determining the impact of acutely toxic substances. Short-term exposure risks are characterized in terms of a hazard index (HI). OEHHA and SDAPCD

generally recognize that an HI greater than 1.0 means that expected exposure levels have the potential to pose adverse health effects. HI levels less than 1.0 are considered safe from any adverse health effects. OEHHA has developed Reference Exposure Levels (RELs) for numerous chemicals, including 53 acute RELs, 82 chronic RELs, and 10 eight-hour RELs. Exposure averaging time for acute RELs is 1 hour. For 8-hour RELs, the exposure averaging time is 8 hours, which may be repeated. Chronic RELs are designed to address continuous exposures for up to a lifetime: the exposure metric used is the annual average exposure. By definition, an acute REL is an exposure that is not likely to cause adverse health effects in a human population, including sensitive subgroups, exposed to that concentration (in units of micrograms per cubic meter [$\mu\text{g}/\text{m}^3$]) for the specified exposure duration on an intermittent basis (OEHHA 2015). Given the short-term and infrequent nature of the largest fireworks display events, assessing acute risk based on acute RELs is the most appropriate method of analysis. Acute RELs for chemicals released from firework activities are presented in Table 4.2-8. As noted, not every chemical or pollutant has an acute REL. For example, while Cr+6 is a known toxin, OEHHA has not developed an acute REL for Cr+6. Similarly, while DPM is a known carcinogen emission from sources, including project-related tugs, OEHHA has not developed an acute REL for tugs. Thus, while OEHHA, along with ARB and EPA, continues to examine the relationship between TAC exposure and short-term (acute) health effects, health studies to date have not provided sufficient exposure information to establish a short-term (acute) non-cancer health risk value for many chemicals, including Cr+6 and DPM. Short-term (acute) non-cancer health risk effects are only analyzed for pollutants that have been assigned risk values, as provided in Table 4.2-8.

When calculating acute risk, the maximum 1-hour ground level concentration (in $\mu\text{g}/\text{m}^3$) of a substance at a receptor is divided by the acute 1-hour REL (in $\mu\text{g}/\text{m}^3$) for the substance. For a single substance, this result of this calculation is called the Hazard Quotient. If a receptor is exposed to multiple substances that target the same organ system, then the Hazard Quotient for the individual substances are summed to obtain an HI for that target organ. Hazard Quotients for different target organs are not added.

Table 4.2-8. Acute Risk Factors for Fireworks-Related TACs

Pollutant	1-Hour Acute REL ($\mu\text{g}/\text{m}^3$)	Target Organ
Copper	100	Respiratory System
Sulfur Dioxide	196	Respiratory System
Nitrogen Dioxide	470	Respiratory System
Carbon Monoxide	23,800	Cardiovascular System
Formaldehyde	55	Eyes (sensory irritation)
Acetaldehyde	470	Eyes; Respiratory System (sensory irritation)
Acrolein	2.5	Eyes; Respiratory System (sensory irritation)
Diesel Particulate Matter	--	--
Hexavalent Chromium	--	--

Source: ARB and OEHHA 2016; OEHHA 2015

4.2.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of impacts associated with air quality resulting from the proposed project. The determination of whether an air quality impact would be significant is based on the applicable thresholds and the professional judgment of the District as Lead Agency, supported by the recommendations of qualified personnel at ICF, and relies wholly on the substantial evidence in the administrative record. Impacts would be considered significant if the project would do any of the following.

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

Appendix G of the State CEQA Guidelines further indicates the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the significance determinations.

Supplemental Thresholds

An EIR should disclose and evaluate the public health consequences associated with increasing air pollutants. Consequently, the following section summarizes the thresholds established by the County of San Diego (County), presents substantial evidence regarding the basis upon which they were developed, and also describes how they are used to determine whether project construction and operational emissions would result in a significant impact within the context of (1) interfering with or impeding attainment of CAAQS and NAAQS, or (2) causing or contributing to increased risks to human health.

Regional Thresholds for SDAB Attainment of State and Federal Ambient Air Quality Standards

As previously indicated, the State CEQA Guidelines state that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the significance determination of whether a project would violate or impede attainment of air quality standards. Attainment status for each pollutant is assigned for the entire air basin. In San Diego, the SDAB is defined as “all of San Diego County” (see 17 CCR 60110). Therefore, the current attainment status for the entire San Diego region, which includes nonattainment status for ozone NAAQS and ozone CAAQS, PM10 CAAQS, and PM2.5 CAAQS, applies to the entire county.

Neither the District nor the Cities of San Diego, Coronado, Chula Vista, National City, or Imperial Beach have developed CEQA thresholds of significance for air quality and health risk.¹ Although SDAPCD has not developed specific thresholds of significance to evaluate construction and operational impacts within CEQA documents, SDAPCD's Regulation II, Rules 20.2 and 20.3 (new source review for non-major and major stationary sources, respectively), outline AQIA Trigger Levels for criteria pollutants for new or modified sources. Based on SDAPCD's AQIA Trigger Levels, as well as EPA rulemaking and CEQA thresholds adopted by SCAQMD, San Diego County has established screening-level thresholds (SLTs) to assist lead agencies in determining the significance of project-level air quality impacts within the county (as shown in Table 4.2-9). Although SDAPCD does not have VOC or PM2.5 AQIA Trigger Levels, the County has adopted a PM2.5 SLT based on EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published on September 8, 2005, which is also consistent with SCAQMD's Air Quality Significance Thresholds (SCAQMD 2015), and a VOC SLT based on the threshold of significance for VOCs from the SCAQMD for the Coachella Valley. Emissions in excess of San Diego County's SLTs, shown in Table 4.2-9, would be expected to have a significant impact on air quality because an exceedance of the SLTs is anticipated to contribute to CAAQS and NAAQS violations in the county.

The County's SLTs are based on SDAPCD AQIA Trigger Levels, and these AQIA Trigger Levels are based on emissions levels identified under the New Source Review (NSR) program, which is a permitting program established by Congress as part of the CAA Amendments of 1990 to ensure that air quality is not significantly degraded by new or modified sources of emissions. The NSR program requires that stationary sources receive permits before construction begins and/or the use of equipment. By permitting large stationary sources, the NSR program ensures that new emissions would not slow regional progress toward attaining the NAAQS. SDAPCD implements the NSR program through Rules 20.2 and 20.3, and has concluded that the stationary pollutants described under the NSR program are equally significant as those pollutants generated with land use projects. SDAPCD's Trigger Levels were set as the total emission thresholds associated with the NSR program to help attain and maintain the NAAQS from new and modified non-major stationary sources.² SDAPCD's Trigger Levels take into account the region's attainment status, emission profile, inventory, and projections, and represent levels above which project-generated emissions could affect SDAPCD's and SANDAG's commitment to attain the state and federal standards in the region. Consistent with Section 15064.7(c) of the State CEQA Guidelines,³ the evidence in support of the air quality thresholds shown in Table 4.2-9 is deemed appropriate for their use in this analysis and in this location within the greater SDAB.

¹ The District is currently in the process of drafting CEQA thresholds of significance for all resources, including air quality. Until these thresholds are adopted, the District will continue to rely on established regional thresholds, which are based on substantial evidence summarized herein.

² San Diego Air Pollution Control District, Rule 20.2, Table 20.2-1, hereby incorporated by reference: <http://www.sdapcd.org/rules/Reg2pdf/R20-2.pdf>

³ "When adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

Table 4.2-9. San Diego County Screening-Level Thresholds

Air Contaminant	Emission Rate		
	(pounds per hour)	(pounds per day) ¹	(tons per year)
Respirable Particulate Matter (PM10)	--	100	15
Fine Particulate Matter (PM2.5) ²	--	55	10
Nitrogen Oxides (NO _x)	25	250	40
Sulfur Oxides (SO _x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead (Pb) ³	--	3.2	0.6
Volatile Organic Compounds (VOC) ⁴	--	75	13.7 ⁵

Source: SDAPCD Regulation II, Rule 20.2, County of San Diego 2007.

¹ According to San Diego County, the daily SLTs are most appropriate when assessing impacts from standard construction and operational emissions. Therefore, daily SLTs are used to evaluate project significance, while hourly and annual SLTs are provided for informational purposes only.

² Based on EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005, and also SCAQMD's Air Quality Significance Thresholds (SCAQMD 2015).

³ Lead and lead compounds.

⁴ County SLTs for VOCs were originally based on the threshold of significance for VOCs from SCAQMD for the Coachella Valley. The terms VOC and ROG are used interchangeably, although VOC is used in this table because the City and County use the term VOC.

⁵ 13.7 tons per year threshold is based on 75 pounds per day multiplied by 365 days per year and divided by 2,000 pounds per ton.

Health-Based Thresholds for Project-Generated Pollutants of Human Health Concern

An EIR should disclose and evaluate the public health consequences associated with increasing air pollutants. As discussed above, all criteria pollutants are associated with some form of health risk (e.g., asthma, asphyxiation). Adverse health effects associated with criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individuals [e.g., age, gender]). Moreover, O₃ precursors (ROG and NO_x) affect air quality on a regional scale. Health effects related to O₃ are therefore the product of emissions generated by numerous sources throughout a region. As part of the setting and updating of the NAAQS, EPA develops and considers quantitative characterizations of exposures and associated risks to human health or the environment, known as a Health Risk and Exposure Assessment (HREA), with recent air quality conditions and with air quality estimated to just meet the current or alternative standard(s) under consideration (EPA 2016). The HREA estimates population exposure to and resulting mortality and morbidity health risks associated with the full range of observed pollutant concentrations, as well as incremental changes in exposures and risks associated with ambient air quality adjusted to just meeting the existing NAAQS and just meeting potential alternative NAAQS under consideration (EPA 2014). However, existing models have limited sensitivity to small changes in criteria pollutant concentrations and, as such, translating project-generated criteria pollutants to specific health

effects would produce meaningless results. In other words, minor increases in regional air pollution from project-generated ROG and NO_x would have nominal or negligible impacts on human health.⁴

For this reason, an analysis of impacts on human health associated with project-generated regional emissions is not included in this analysis. Increased emissions of O₃ precursors (ROG and NO_x) generated by the proposed project could increase photochemical reactions and the formation of tropospheric O₃, which, at certain concentrations, could lead to respiratory symptoms (e.g., coughing), decreased lung function, and inflammation of airways. Although these health effects are associated with O₃, the impacts are a result of cumulative and regional ROG and NO_x emissions, and the incremental contribution of the proposed project to specific health outcomes from criteria pollutant emissions would be limited and cannot be solely traced to the proposed project. (See Threshold 3 and Chapter 5 for a discussion of regional cumulative impacts.)

Because localized pollutants generated by a project can directly affect adjacent sensitive receptors, the analysis of project-related impacts on human health focuses only on those localized pollutants with the greatest potential to result in a significant, material impact on human health. This is consistent with the current state-of-practice and published guidance by the California Air Pollution Control Officers Association (CAPCOA 2009), OEHHA (2015), SDAPCD (2006), and ARB (2000). These localized pollutants are (1) locally concentrated CO and (2) TACs. Locally adopted thresholds of significance for each pollutant are identified below. Note that a qualitative health-based analysis of criteria pollutants is briefly discussed under Threshold 4, but the health-based analysis focuses primarily on roadway CO and firework-related TACs, which are most often associated with adverse health outcomes (i.e., acute, chronic, and cancer risks) as opposed to the respiratory irritability outcomes typically seen from exposure to elevated concentrations of the criteria pollutants discussed above.

Local Micro-Scale Carbon Monoxide Concentration Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below state and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more (SCAQMD 1993). The following are applicable local emission concentration standards for CO.

- CAAQS and NAAQS 1-hour CO standards of 20 and 35 ppm, respectively
- CAAQS and NAAQS 8-hour CO standard of 9.0 and 9 ppm, respectively

As in most urban areas, high short-term concentrations of CO, known as “hot-spots,” can be a problem in San Diego County. Hot-spots typically occur in areas of high motor vehicle use, such as in parking lots, at congested intersections, and along highways. Because elevated CO concentrations typically occur at locations with high traffic volumes and congestion, elevated CO concentrations are

⁴ As an example, the Bay Area Air Quality Management District’s Multi-Pollutant Evaluation Method requires a 3 to 5 percent increase in regional ozone precursors to produce a material change in modeled human health impacts. Based on 2008 ROG and NO_x emissions in the Bay Area, a 3 to 5 percent increase equates to over 20,000 pounds per day of ROG and NO_x.

often correlated with level of service (LOS) at intersections. LOS expresses the congestion level for an intersection and is designated by a letter from A to F, with LOS A representing the best operating conditions and LOS F the worst. Significant concentrations of CO sometimes occur (depending on temperature, wind speed, and other variables) at intersections where LOS is rated at D or worse.

In order to assess the potential for CO hot-spots at nearby intersections, the analysis herein uses the County's CO hot-spot screening criteria, which indicate that any project that would place receptors within 500 feet of a signalized intersection with peak-hour trips exceeding 3,000 trips and operating at or below LOS E must conduct a hot-spot analysis for CO. Likewise, projects that will cause road intersections with intersection peak-hour trips exceeding 3,000 trips to operate at or below LOS E must also conduct a CO hot-spot analysis.

Localized Toxic Air Contaminant Concentrations

Various forms of TACs are recognized as causing adverse health effects. The most abundant TAC in urban settings is DPM, which is a form of localized PM (see above) that is generated by diesel equipment and vehicle exhaust. DPM has been identified as a TAC by ARB and is particularly concerning because long-term exposure can lead to cancer, birth defects, and damage to the brain and nervous system. Other TACs are emitted from various other combustion and industrial processes. Studies indicate that PM concentrations in most urban areas are generally attributed to vehicle traffic, and PM concentrations diminish with distance, particularly beyond 1,000 feet (ARB 2005). With respect to fireworks, studies have found that fireworks display events can result in atmospheric particulate matter and associated species, such as certain heavy metals and other particles, which includes both light and heavy metals, elemental and organic carbon, and perchlorate compounds. The County has adopted incremental cancer and hazard thresholds to evaluate receptor exposure to DPM emissions, which are adapted from SDAPCD Regulation XII, Rule 1200. Projects that would result in exposure to TACs resulting in a maximum incremental cancer risk (MICR) greater than 1 in 1 million without application of Toxics best available control technology (BACT),⁵ MICR greater than 10 in 1 million with application of Toxics BACT, or a chronic and acute non-cancer health hazard index greater than 1 would be deemed as having a potentially significant impact related to health risks from DPM exposure. Because various Toxics BACTs are in place at the District—including ARB rules on vessels, shore power, and drayage trucks—the MICR of 10 in 1 million is utilized herein.

Criteria for Cumulative Impacts

Potential cumulative air quality impacts would result when cumulative projects' pollutant emissions would combine to degrade air quality conditions to below acceptable levels. This could occur on a local level, such as through increases in vehicle emissions at congested intersections, or at sensitive receptor locations due to concurrent construction activities; at a regional level, such as the potential impact of multiple past, present, and reasonably foreseeable projects on O₃ within the SDAB; or globally, such as the potential impact of GHG emissions on global climate change.

⁵ BACT is the level of air contaminant emission control or reduction required by state law and District rules for new, modified, relocated, and replacement emission sources. Examples of Toxics BACT include diesel particulate filters, catalytic converters, and selective catalytic reduction technology.

Neither the District, nor the cities of San Diego, Coronado, National City, Chula Vista, or Imperial Beach, nor SDAPCD has established quantitative thresholds to determine whether a project would have a cumulatively considerable contribution to air quality. The County of San Diego thresholds (see below), set forth by SDAPCD and SCAQMD, for cumulative air quality impacts are utilized for the analysis of the impacts of proposed project operations related to emissions on air quality. There is no construction required for the implementation of the proposed project. As such, a construction emissions analysis is not applicable.

The following thresholds are used to determine the cumulatively considerable net increase in emissions during the operation phase:

- A project that does not conform to the RAQS or has a significant direct impact on air quality with regard to operational emissions of PM10, PM2.5, NO_x, and/or ROG_s (i.e., an exceedance of SLT values indicated in Table 4.2-9) would be considered to have a cumulatively considerable net increase.
- Projects that cause road intersections to operate at or below LOS E for intersections with total cumulative with project peak-hour trips in excess of 3,000 trips and create a CO hot-spot would create a cumulatively considerable net increase of CO. Note that because the infrequent and dispersed nature of the fireworks display events, the traffic analysis did not analyze conventional traffic impact metrics, which would include intersection and roadway LOS, both of which would allow for a CO hot-spot analysis to be performed. Instead, because the transportation assessment concentrates on the level of change in travel and parking demand during the largest fireworks display events, the discussion of traffic-related impacts analyzes the overall change in travel demand and patterns and not the localized effects at a given intersection or roadway (i.e., CO-hotspot analysis).

4.2.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not conflict with or obstruct implementation of an applicable air quality plan.

Impact Discussion

SDAPCD is required, pursuant to the NAAQS and CAAQS, to reduce emissions of criteria pollutants for which the County and air basin are in nonattainment (i.e., O₃, PM10, and PM2.5). The most recent SDAPCD air quality attainment plans are the 2016 RAQS Revision and the 2016 O₃ attainment plan. The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O₃, while the 2016 attainment plan include SDAPCD's plans and control measures for attaining the NAAQS for O₃. The 2009 RAQS projects future emissions and determines the strategies necessary for the reduction of stationary source emissions through regulatory controls. The RAQS relies on the emission projections and control measures outlined in the SIP. ARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the region's cities and by the County of San Diego. The 2016 O₃ attainment plan represents SDAPCD's portion of the SIP. The SIP is a comprehensive plan of previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls that describes how each nonattainment area in the state will meet NAAQS, as described 4.2.3.3, *Local*.

The test to assess project consistency is that if the project proposes development that is consistent with the growth anticipated by the relevant land use plans that were used in the formulation of the RAQS and SIP, the project would be consistent with the RAQS and SIP. Moreover, if the project is consistent with the overarching goals (i.e., to reduce emissions and attain NAAQS and CAAQS) and strategies (i.e., measures implemented to reduce emissions), then the project would be consistent with the RAQS and SIP. The PMP is the governing land use document for physical development under the jurisdiction of the District. No other land use plan or document exists that governs physical development within California State Lands Commission jurisdiction (Collins pers. comm.).

Proposed New Fireworks Display Events

The proposed project consists of an ordinance to govern existing and proposed new fireworks display events and includes four proposed new fireworks display events along the National City and Chula Vista Bayfronts. The proposed project does not propose any land or water use changes or any permanent structures to be erected. As shown in Table 4.2-10 below, fireworks display events result in minimal emissions of ozone precursors (VOC and NO_x) from the fireworks themselves. Moreover, emissions from the existing tug activity are already accounted for in the RAQS, SIP, Regional Transportation Plan, and the District's maritime inventory, and new tug activity would be minimal and limited to the four new fireworks display events throughout the year. No changes in land or water uses would occur as a result of the proposed project. The proposed project would not result in land or water use designations that would be incompatible with existing onsite PMP land or water use designations or with existing uses within California State Lands Commission jurisdiction, nor would it result in unanticipated growth. As described in Section 4.7, *Land Use and Planning*, the project would be consistent with the PMP and the Coastal Act, and would not conflict with applicable conservation plans within the Bay.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance requires fireworks display events to comply with all applicable laws and regulations and would not result in any change to the existing conditions in relation to applicable air quality plans. As such, the effects of the proposed ordinance on existing fireworks display events would not conflict with or obstruct implementation of an applicable air quality plan. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not conflict with or obstruct implementation of an applicable air quality plan. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not conflict with or obstruct implementation of an applicable air quality plan. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impact would occur.

Threshold 2: Implementation of the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality standard.

Impact Discussion

The proposed new fireworks displays events would result in criteria pollutant and air toxic emissions from sources that are directly or indirectly related to the fireworks display events (including fireworks detonation, tug and barge activity, and material deliveries), and indirectly related to visitation, including potential changes in motor vehicle travel as discussed below. Therefore, the proposed project has the potential to create air quality impacts by violating an air quality standard or contributing substantially to an existing or projected air quality violation.

For the purposes of this analysis, this impact discussion considers circumstances in which the proposed project would result in impacts on air quality on a regional scale. This discussion focuses on all pollutants and whether project emissions would exceed the regional thresholds shown in Table 4.2-9. These thresholds are used to assess the sum of all project-related criteria pollutant emissions that occur at either the daily or annual time scale, regardless of where these activities occur within the SDAB. For example, even though emissions from fireworks and tugs would occur within San Diego Bay and emissions from fireworks deliveries would occur throughout the entire delivery route, their collective emissions are summed and compared to the regional thresholds shown in Table 4.2-9. This discussion is to ensure that new emissions would not slow regional progress toward attaining the air quality standards. The analysis concentrating on the localized effects of project-related emissions is contained within Threshold 4 below. A detailed description of these thresholds is described above under *Regional Thresholds for SDAB Attainment of State and Federal Ambient Air Quality Standards*.

The environmental setting in the project area includes a number of existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants and occur year-round. The greatest number of these fireworks display events occur in the summer months

from July to September. These fireworks displays events result in criteria pollutant emissions from sources that are directly or indirectly related to the displays, including fireworks detonation, tug and barge activity, and material deliveries, and indirectly related to visitor motor vehicle travel. A description of each of these sources and associated emissions modeling are provided in Section 4.2.4.1. Criteria pollutant emissions associated with existing activity at the daily time scale (pounds per day) are presented in Table 4.2-10 and criteria pollutant emissions associated with existing activity at the annual time scale (tons per year) are presented in Table 4.2-11. As discussed above, potential impacts associated with the four proposed new fireworks display events per year were determined by scaling emissions from the Big Bay Boom event by the amount of fireworks for each proposed new display.

As shown in Table 4.2-10, emissions associated with existing Fourth of July fireworks display events exceed San Diego County's daily SLTs for SO_x, PM₁₀, and PM_{2.5} but emissions associated with existing non-Fourth of July fireworks display events are below daily San Diego County's SLTs for all pollutants.

As shown in Table 4.2-11, emissions associated with all existing fireworks display events throughout the year result in emissions far below annual San Diego County's SLTs for all pollutants. While fireworks display events are intense and can result in short-term impacts on air quality on fireworks display event days, the displays themselves are infrequent and temporary, and only the largest displays, specifically those on the Fourth of July, currently result in adverse, short-term impacts on air quality. Over the course of the year, long-term effects from these fireworks display events result in emissions far below annual thresholds.

Moreover, as discussed in Section 4.2.4.1, an analysis of regional traffic patterns cannot be accurately calculated for the fireworks display events. However, it is unlikely that vehicle traffic related to the largest fireworks display events results in emissions that would exceed the fireworks themselves and it is unlikely that these emissions would contribute substantially to an existing or projected air quality standard. In order to demonstrate the minimal air quality effects visitor-related vehicle traffic has on event days, the analysis herein provides a qualitative evaluation of hourly background monitoring on both event and non-event days. The proposed new National City and Chula Vista fireworks display events are assumed to be similar in terms of size to the existing Fourth of July Imperial Beach event. Therefore, traffic conditions associated with the Fourth of July Imperial Beach event would provide the most appropriate comparison to the proposed new fireworks display events. However, there is no air monitoring station in Imperial Beach; the closest monitoring station is the Chula Vista monitoring station, which is approximately 5.5 miles from the Fourth of July Imperial Beach event. Given this distance, it stands to reason that any emissions from visitor-related vehicle traffic for the Imperial Beach event is not captured by the Chula Vista monitoring station on event days, as visitors to the event are unlikely to drive in proximity to the Chula Vista station. Therefore, the Fourth of July Imperial Beach event cannot be used to provide a comparison to the proposed new events.

However, another large event, the Big Bay Boom, has viewing areas that are close to the San Diego-Beardsley Street (Barrio Logan) station that can be used to qualitatively evaluate the air quality effects of visitor traffic during the Big Bay Boom. The effects of the Big Bay Boom can then be used to estimate the air quality effects of visitor traffic associated with other shows, such as the proposed new fireworks display events. Given the proximity of the Beardsley Street station to the Big Bay Boom event, monitoring data from the Beardsley Street station on event days likely capture

emissions from visitor-related vehicle traffic. Therefore, using Beardsley Street station during the Big Bay Boom as a comparison (as discussed in Section 4.2.4.1) to background air monitoring data both before and after the events is discussed here. Hourly PM_{2.5} concentrations for July 4, 2015 were obtained from SDAPCD's Beardsley Street (Barrio Logan) station. Those data show that the peak hour PM_{2.5} concentration coincided with the Big Bay Boom event, during the 9 p.m.–10 p.m. hour. That PM_{2.5} concentration was 25.8 µg/m³, dropping to 6.1 µg/m³ the following hour (10 p.m.–11 p.m.), and averaging 5.8 µg/m³ for the 24-hour period. Data from 2013 and 2014 and the 3-year average are also shown in Table 4.2-12. This trend is consistent with other studies that found that while particulate concentrations peaked during and immediately after fireworks display events, concentrations typically decline to background levels within a day (Tian et al. 2014). In this case, concentrations declined to background levels 2 hours after the fireworks display event (4.9 µg/m³) on this day in 2015. PM_{2.5} concentrations on this holiday are most likely dominated by mobile source exhaust and road dust sources. For comparison, as shown in Table 4.2-12, for the “control days” (2 days before and 2 days after the Fourth of July), the background average was 5.5 µg/m³ for the 24-hour period. Thus, concentrations on the display day, which include the fireworks display event, were only slightly higher over the 24-hour period on these control days. As such, because background on the display day is lower than the weekday control day, vehicular traffic on the display day is likely lower than a typical day and is therefore unlikely to violate an air quality standard or contribute substantially to an existing or projected air quality standard.

Fourth of July Fireworks Display Events

Fourth of July National City Bayfront Fireworks Display Event

For purposes of this analysis, the Fourth of July National City Bayfront Fireworks Display Event is anticipated to be an approximately 456-pound display that takes place on one barge placed off the National City Bayfront. As shown in Table 4.2-13, daily criteria pollutant emissions from the National City Bayfront fireworks display event by itself would not exceed thresholds. As shown in Table 4.2-14, annual criteria pollutant emissions from the National City Bayfront fireworks display event by itself would not exceed thresholds.

Fourth of July Chula Vista Bayfront Fireworks Display Event

For purposes of this analysis, the Fourth of July Chula Vista Bayfront Fireworks Display Event is anticipated to be an approximately 456-pound display that takes place on one barge placed off the Chula Vista Bayfront. As shown in Table 4.2-13, daily criteria pollutant emissions from the Chula Vista Bayfront fireworks display event by itself would not exceed thresholds. As shown in Table 4.2-14, annual criteria pollutant emissions from the Chula Vista Bayfront fireworks display event by itself would not exceed thresholds.

However, as shown in Table 4.2-13, emissions during the combined new Fourth of July National City and Chula Vista Bayfront displays would exceed relevant San Diego County's SLTs for PM_{2.5}. Therefore, the proposed project would violate an air quality standard or contribute substantially to an existing or projected air quality violation during the combined Fourth of July fireworks display events (**Impact AQ-1**), and mitigation is required.

Based on the information above, it is assumed that the level of emissions stemming directly from the fireworks display events themselves is directly correlated with the pounds per event. Therefore, limiting the combined number of pounds would act to reduce emissions. In this instance, the

combined PM2.5 emissions during the combined new fireworks display events are approximately 3 pounds, or 6 percent, above the thresholds of 55 pounds per day. Therefore, reducing the total pounds for these events from 912 pounds (456 pounds [x] two fireworks display events) to approximately 800 pounds (400 pounds [x] two fireworks display events) would reduce PM2.5 emissions during the combined new fireworks display events to a level below significance.

Other Non-Fourth of July Fireworks Display Events

It is anticipated that Chula Vista Bayfront would host two non-Fourth of July fireworks display events throughout the year. It is assumed that these displays would be 3 to 10 minutes in length. For purposes of analysis, it is assumed that each would be a 114-pound fireworks display event that takes place on one barge placed off the Chula Vista Bayfront. As shown in Table 4.2-13, criteria pollutant emissions from the non-Fourth of July Chula Vista Bayfront display would not exceed thresholds.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance includes several conditions pertaining to limiting emissions related to air quality. The proposed ordinance limits delivery truck idling to 3 minutes and encourages the use of alternative fireworks produced with pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner and produce less smoke. Furthermore, the proposed ordinance requires a reduction in the total amount of copper allowed in fireworks used for the Big Bay Boom event. The conditions of the proposed ordinance would ensure that emissions from existing fireworks display events are effectively reduced. As such, compliance with the proposed ordinance would improve existing conditions. Therefore, the effect of the proposed ordinance on existing fireworks display events would not violate an air quality standard or contribute substantially to an existing or projected air quality standard. No significant adverse impacts would occur.

Table 4.2-10. Estimate of Daily Criteria Pollutant Emissions during Existing Fireworks Display Events (pounds per day and per event)

Emission Source	VOC	NO_x	CO	SO_x	PM10	PM2.5
Fourth of July						
<i>Fireworks</i>						
Big Bay Boom	-	9	1	158	477	329
Glorietta Bay	-	1	<1	12	35	24
Imperial Beach	-	1	<1	13	41	28
<i>Tugs</i>						
Big Bay Boom	7	59	20	<1	3	3
Glorietta Bay	1	9	4	<1	1	<1
Imperial Beach	-	-	-	-	-	-
<i>Deliveries</i>						
All Display Events (assumes 3 events)	<1	10	1	<1	1	<1
Maximum Daily Fourth of July	8	88	26	183	557	385
Non-Fourth of July						
<i>Fireworks</i>						
Symphony Summer Pops	-	<1	<1	3	8	6
Our Lady of Rosary Church	-	<1	<1	1	2	1
U.S.S. Midway	-	<1	<1	7	21	14
NASCCO	-	<1	<1	8	25	17
<i>Tugs</i>						
Symphony Summer Pops	1	12	4	<1	1	1
Our Lady of Rosary Church	-	-	-	-	-	-
U.S.S. Midway	2	13	5	<1	1	1
NASSCO	-	-	-	-	-	-
<i>Deliveries</i>						
Per Show	<1	3	<1	<1	<1	<1
All Display Events (assumes all 4 events)	<1	14	2	<1	1	<1
Maximum Daily Non-Fourth of July (if all overlap)	3	40	11	19	58	40
Maximum Daily Non-Fourth of July (if no events overlap)	2	17	5	8	25	17
<i>Significance Thresholds</i>	<i>75</i>	<i>250</i>	<i>550</i>	<i>150</i>	<i>100</i>	<i>55</i>
Source: Appendix E						
Note: Totals may not add exactly due to rounding.						

Table 4.2-11. Estimate of Annual Criteria Pollutant Emissions during Existing Fireworks Display Events (tons per year and per event)

Emission Source	VOC	NO_x	CO	SO_x	PM10	PM2.5
Fourth of July						
<i>Fireworks</i>						
Big Bay Boom	-	<0.01	<0.01	0.08	0.24	0.16
Glorietta Bay	-	<0.01	<0.01	0.01	0.02	0.01
Imperial Beach	-	<0.01	<0.01	0.01	0.02	0.01
<i>Tugs</i>						
Big Bay Boom	<0.01	0.03	0.01	<0.01	<0.01	<0.01
Glorietta Bay	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Imperial Beach	-	-	-	-	-	-
<i>Deliveries</i>						
All Shows	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>Annual Fourth of July</i>	<i><0.01</i>	<i>0.04</i>	<i><0.01</i>	<i>0.09</i>	<i>0.28</i>	<i>0.19</i>
Non-Fourth of July						
<i>Fireworks</i>						
Symphony Summer Pops	-	<0.01	<0.01	0.02	0.07	0.05
Our Lady of Rosary Church	-	<0.01	<0.01	<0.01	<0.01	<0.01
U.S.S. Midway	-	<0.01	<0.01	0.03	0.08	0.05
NASSCO	-	<0.01	<0.01	0.01	0.02	0.01
<i>Tugs</i>						
Symphony Summer Pops	0.01	0.12	0.04	<0.01	0.01	0.01
Our Lady of Rosary Church	-	-	-	-	-	-
U.S.S. Midway	0.02	0.15	0.05	<0.01	0.01	0.01
NASSCO	-	-	-	-	-	-
<i>Deliveries</i>						
All Shows	<0.01	0.08	0.01	<0.01	0.01	<0.01
<i>Annual Non-Fourth of July</i>	<i>0.03</i>	<i>0.35</i>	<i>0.11</i>	<i>0.06</i>	<i>0.19</i>	<i>0.13</i>
Annual All Events	0.04	0.40	0.12	0.15	0.46	0.32
<i>Significance Thresholds</i>	<i>13.7</i>	<i>40</i>	<i>100</i>	<i>40</i>	<i>15</i>	<i>10</i>
Source: Appendix E						
Note: Totals may not add exactly due to rounding.						

Table 4.2-12. Ambient PM2.5 Background Concentrations from the San Diego–Beardsley Street Monitoring Station on the Fourth of July

Averaging Period	Monitored PM2.5 Concentrations ($\mu\text{g}/\text{m}^3$)			
	2015	2014	2013	3-Year Average
Fourth of July				
Peak Hour	25.8	36.2	14.0	25.3
Next Hour	6.1	21.6	11.0	12.9
24-Hour Average with Peak	5.8	14.1	7.5	9.2
24-Hour Average without Peak	4.9	13.2	7.3	8.5
Control Days				
Peak Hour	17.0	17.5	13.8	16.1
Next Hour	8.7	12.2	12.0	11.0
24-Hour Average	5.5	10.3	7.7	7.8

Source: SDAPCD 2016c

Table 4.2-13. Estimate of Peak Daily Criteria Pollutant Emissions during Proposed New Fireworks Display Events Prior to Mitigation (pounds per day and per event)

Emission Source	VOC	NO _x	CO	SO _x	PM10	PM2.5
Fourth of July						
<i>Fireworks</i>						
Chula Vista Bayfront	-	1	<1	13	41	28
National City Bayfront	-	1	<1	13	41	28
<i>Tugs</i>						
Chula Vista Bayfront	3	25	8	<1	1	1
National City Bayfront	2	19	6	<1	1	1
<i>Deliveries</i>						
Both Shows	<1	3	<1	<1	<1	<1
New Display Events - Fourth of July	5	50	15	27	84	58
<i>Exceed Significant Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	Yes
Non-Fourth of July						
<i>Fireworks</i>						
Chula Vista Bayfront	-	<1	<1	3	10	7
<i>Tugs</i>						
Chula Vista Bayfront	3	25	8	<1	1	1
<i>Deliveries</i>						
Chula Vista Bayfront	<1	3	<1	<1	<1	<1
New Display Events - Non-Fourth of July	3	29	9	3	12	8
<i>Exceed Significant Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Significance Thresholds	75	250	550	150	100	55

Source: Appendix E

Note: Totals may not add exactly due to rounding. **Bold** indicates an exceedance.

Table 4.2-14. Estimate of Annual Criteria Pollutant Emissions during New Fireworks Display Events (tons per year)

Emission Source	VOC	NO_x	CO	SO_x	PM10	PM2.5
Fourth of July						
<i>Fireworks</i>						
Chula Vista Bayfront	-	<0.01	<0.01	0.01	0.02	0.01
National City Bayfront	-	<0.01	<0.01	0.01	0.02	0.01
<i>Tugs</i>						
Chula Vista Bayfront	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
National City Bayfront	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
<i>Deliveries</i>						
Both Shows	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
New Display Events - Fourth of July	<0.01	0.02	0.01	0.01	0.04	0.03
<i>Exceed Significant Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Non-Fourth of July						
<i>Fireworks</i>						
Chula Vista Bayfront	-	<0.01	<0.01	<0.01	0.01	<0.01
<i>Tugs</i>						
Chula Vista Bayfront	<0.01	0.03	0.01	<0.01	0.01	<0.01
<i>Deliveries</i>						
Chula Vista Bayfront	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
New Display Events - Non-Fourth of July	<0.01	0.03	0.01	<0.01	0.01	<0.01
<i>Exceed Significant Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Significance Thresholds	13.7	40	100	40	15	10
Source: Appendix E						
Note: Totals may not add exactly due to rounding. Bold indicates an exceedance.						

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

Implementation of the proposed new fireworks display events would violate an air quality standard or contribute substantially to an existing or projected air quality violation during the Fourth of July fireworks display events (**Impact-AQ-1**). Potentially significant impact(s) include:

Impact-AQ-1: Emissions in Excess of PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events. Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County SLTs for PM2.5. The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by SDAPCD to attain the PM2.5 NAAQS and CAAQS.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events with Compliance with the Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(c) Size of Fireworks Display Events.

D. National City Fourth of July, not to exceed 400 pounds of fireworks

E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks

MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance.

The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(f) Best Management Practices. Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:

1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.

(d) Fireworks Chemical Composition and Packaging.

1. Chemical Composition.
 - B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The implementation of mitigation measure **MM-AQ-1** would require the limitation of the size of National City and Chula Vista Fourth of July fireworks display events to 400 pounds each, which will ensure that if the events overlapped the total pounds would not exceed 800 pounds. Therefore, when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time they would not exceed the daily San Diego County SLTs for PM_{2.5}. Impacts would be reduced to a less-than-significant level.

Furthermore, the proposed ordinance contains several conditions of approval intended to limit impacts on air quality. Therefore, implementation of mitigation measure **MM-AQ-2** requires compliance with air quality-related conditions, such as limiting delivery truck idling to 3 minutes and shutting down trucks when not in use, and encourages the use of alternative fireworks produced with pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner and produce less smoke. These conditions of the ordinance would provide some reduction in emissions. The exact amount of emissions reduction provided by these conditions cannot be quantified due to many variables (precise existing and future idling times, etc.) but the reductions would be modest and would further reduce the less-than-significant impact after the implementation of mitigation measure **MM-AQ-1**.

Table 4.2-15. Estimate of Peak Daily Criteria Pollutant Emissions during Proposed New Fireworks Display Events after Mitigation (pounds per day and per event)

Emission Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Fourth of July						
<i>Fireworks</i>						
Chula Vista Bayfront	-	1	<1	13	41	25
National City Bayfront	-	1	<1	13	41	25
<i>Tugs</i>						
Chula Vista Bayfront	3	25	8	<1	1	1
National City Bayfront	2	19	6	<1	1	1
<i>Deliveries</i>						
Both Shows	<1	3	<1	<1	<1	<1
New Display Events - Fourth of July	5	50	15	27	84	52
<i>Exceed Significant Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Emission Source	VOC	NO_x	CO	SO_x	PM10	PM2.5
Non-Fourth of July						
<i>Fireworks</i>						
Chula Vista Bayfront	-	<1	<1	3	10	7
<i>Tugs</i>						
Chula Vista Bayfront	3	25	8	<1	1	1
<i>Deliveries</i>						
Chula Vista Bayfront	<1	3	<1	<1	<1	<1
New Display Events - Non-Fourth of July	3	29	9	3	12	8
<i>Exceed Significant Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Significance Thresholds	75	250	550	150	100	55
Source: Appendix E						
Note: Totals may not add exactly due to rounding.						

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 3: Implementation of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

Impact Discussion

Proposed New Fireworks Display Events

The SDAB is currently in nonattainment for O₃ under NAAQS and for O₃, PM10, and PM2.5 under CAAQS, as a result of past and present projects, and will be further impeded by reasonably foreseeable future projects (see Chapter 5, *Cumulative Impacts*). As discussed above and shown in Tables 4.2-13 and 4.2-14, new Fourth of July fireworks display events associated with the proposed project would result in criteria pollutant emissions above thresholds for PM2.5 during the combined new Fourth of July fireworks display events, but would be below thresholds for all other criteria pollutants and precursors thereof (**Impact AQ-1**). Also, criteria pollutant emissions for the other proposed new non-Fourth of July fireworks display events would be below thresholds for all nonattainment criteria pollutants and precursors regardless if both non-Fourth of July fireworks display events were to occur on the same day or on separate days.

The related fireworks display events, development projects, and temporary special events identified by the District that would occur within vicinity of San Diego Bay and the Imperial Beach Oceanfront are presented in Tables 5-1 and 5-2 of this EIR. The District has identified 53 related fireworks

display events that took place in 2015.⁶ These fireworks display events are the most relevant from a cumulative perspective in that they could potentially result in impacts similar to those of the proposed project (e.g., short-term CAAQS and acute impacts), particularly for those displays that occur on the Fourth of July. Operation of one or more of these fireworks display events could potentially overlap with some fireworks display events that are part of the proposed project on both Fourth of July and non-Fourth of July fireworks display event days. The related cumulative fireworks display events range in length from 2 to 45 minutes, while the 45-minute (1,200-pound) event off Embarcadero Marina Park South was a special event that did not occur on the Fourth of July and is not expected to occur on an ongoing basis. Each cumulative fireworks display event is anticipated to be much smaller than the Big Bay Boom, and while the largest cumulative fireworks display events (e.g., the 1,200-pound event off Embarcadero Marina Park South) may exceed some threshold levels (e.g., PM10 and PM2.5), emissions from all other cumulative events are assumed to be far below threshold levels for all pollutants and precursors. However, because the project's new Fourth of July fireworks display events would result in emissions that exceed threshold levels for nonattainment pollutants (PM2.5), and cumulative fireworks display events exceed threshold levels and ambient air quality standards for a nonattainment pollutant (PM2.5), the project would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (PM2.5) (**Impact AQ-2**).

The other proposed new non-Fourth of July fireworks display events would be below thresholds for all nonattainment criteria pollutants and precursors regardless if both non-Fourth of July fireworks display events were to occur on the same day or on separate days. Therefore, the proposed non-Fourth of July events would not result in a cumulatively considerable net increase of any criteria pollutant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance includes several conditions intended to reduce adverse impacts on air quality. The proposed ordinance limits delivery truck idling to 3 minutes and encourages the use of alternative fireworks produced with pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner and produce less smoke. Furthermore, the proposed ordinance requires a reduction in the total amount of copper allowed in fireworks used for the Big Bay Boom event. The conditions of the proposed ordinance would ensure that emissions from existing fireworks display events are effectively reduced. As such, compliance with the proposed ordinance would improve the existing condition. Therefore, the effect of the proposed ordinance on existing fireworks display events would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. No significant adverse impacts would occur.

⁶ One barge-based fireworks display event associated with the Loew's Coronado Resort occurred in 2014. There were no events reported for 2015. However, this display was included because Loew's Coronado Resort historically has had fireworks display events in the past.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

Implementation of the proposed new fireworks display events would result in a cumulatively considerable net increase of PM_{2.5}, which is a nonattainment pollutant (**Impact-AQ-2**). Potentially significant impact(s) include:

Impact-AQ-2: Cumulative Emissions in Excess of PM_{2.5} Thresholds During Combined Fourth of July Fireworks Display Events. Project emissions during new Fourth of July fireworks display events, before mitigation, would exceed the threshold for PM_{2.5} and, when combined with other nearby past, present, and probable future projects, may result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable state ambient air quality standard. The contribution of project-related emissions is considered significant because the proposed project would exceed thresholds that have been set by SDAPCD to attain the CAAQS during Fourth of July fireworks display events.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effect of the proposed ordinance on existing fireworks display events would not result in a cumulatively considerable net increase in a nonattainment pollutant. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

Implement **MM-AQ-1** and **MM-AQ-2** as described under Threshold 2.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impact-AQ-2 would be reduced to a level below significance after implementation of **MM-AQ-1** because mitigation would ensure that fireworks display event sizes would be limited to a level that would ensure the project-related PM_{2.5} emissions would be below thresholds. As shown in Table 4.2-15, after mitigation, the proposed project would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard due to project-related PM_{2.5} emissions. As such, impacts would be reduced to a less-than-significant level.

Implementation of mitigation measure **MM-AQ-2** requires compliance with air quality-related conditions, such as limiting delivery truck idling to 3 minutes and shutting down trucks when not in use, and encourages the use of alternative fireworks produced with pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner and produce less smoke.

These conditions of the ordinance would provide some reduction in emissions. The exact amount of emissions reduction provided by these conditions cannot be quantified due to many variables (precise existing and future idling times, etc.) but the reductions would be modest and would further reduce the less-than-significant impact after the implementation of mitigation measure **MM-AQ-1**.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 4: Implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations.

Impact Discussion

For the purposes of this analysis, this impact discussion considers circumstances in which the proposed project would result in impacts on air quality on a localized scale. This discussion focuses on pollutants of localized concern and whether the project would result in pollutant concentrations near project activities that exceed relevant pollution standards and/or whether pollutant concentrations would expose sensitive receptors to adverse health effects. Relevant state and federal pollutant standards are shown in Table 4.2-7. More simply, this discussion focuses on where geographically the emissions analyzed under Threshold 2 end up, and whether those emissions would create acute (short-term) or chronic (long-term) health effects at receptor locations. Acute (short-term) or chronic (long-term) health effects are discussed above under *Localized Toxic Air Contaminant Concentrations* in Section 4.2.4.2.

Toxic Air Contaminants

Proposed New Fireworks Display Events

The proposed new fireworks displays events would result in air toxic emissions from sources that are directly or indirectly related to the fireworks display events, particularly from fireworks detonation.

An HRA was performed to analyze the short-term (acute) health effects of the proposed new fireworks display events. The analysis is based on the Big Bay Boom, which was used as a comparison for all of the proposed new fireworks display events because the Big Bay Boom is by far the largest and most visited of the fireworks display events. The methodology used in the HRA was based on a literature review. The key toxic pollutants of most concern have acute health effects, the most prominent of which is Cu. Given the short-term and infrequent nature of the proposed fireworks display events, this analysis focuses solely on the short-term (acute) exposure and does not focus on the long-term (chronic) effects of the fireworks display events.

Acute exposures from all key toxic pollutants were considered to derive acute exposure assessment for the maximum exposed individual (MEI) receptor. Table 4.2-16 presents 1-hour air toxic pollutant concentrations and 1-hour acute hazard at the MEI associated with the 2015 Big Bay Boom event. As shown, the Big Bay Boom event currently results in acute risk in excess of the acute hazard threshold. Only elemental Cu along the respiratory pathway shows that a modeled concentration

exceeds the acute hazard index threshold of 1.0. None of the acute 1-hour concentration levels exceed the 1-hour CAAQS.

Fourth of July National City Bayfront Fireworks Display Event

The Fourth of July National City Bayfront fireworks display event would be a new approximately 456-pound display that would take place on one barge placed off the National City Bayfront. The risk levels shown in Table 4.2-16 provide a basis for estimating the anticipated emissions from the proposed project. As such, this 456-pound display is approximately 8.5 percent the size of the 2015 Big Bay Boom event. Assuming that concentrations of air toxics are scaled linearly by the size of the event, acute risk associated with the Fourth of July National City Bayfront fireworks display event would be far below the acute hazard threshold of 1.0 (1.4 acute risk for Big Bay Boom (x) 8.5 percent = 0.12 HI). Therefore, the Fourth of July National City Bayfront fireworks display event would not result in an acute risk at nearby receptors. The anticipated location for the Fourth of July National City Bayfront Fireworks Display Event is approximately 2.0 miles from the anticipated barge location associated with the proposed new Chula Vista fireworks display event along the Chula Vista Bayfront. In the event that the Fourth of July National City Bayfront fireworks display event and Chula Vista fireworks display event occurred concurrently at the same time, the events are far enough apart that a single receptor would not be exposed to emissions from both shows. Therefore, the proposed new Fourth of July fireworks display event at National City Bayfront would not expose sensitive receptors to substantial pollutant concentrations, including TACs. Impacts would be less than significant.

Fourth of July Chula Vista Bayfront Fireworks Display Event

Similar to the National City fireworks display event, the Fourth of July Chula Vista Bayfront fireworks display event would be a new 456-pound display that would take place on one barge placed off the Chula Vista Bayfront. Risk levels from this display would be similar that of the National City Fourth of July fireworks display event. Also, the events would take place approximately 7.0 miles south-southeast of the most southerly barge associated with the Big Bay Boom event along the South Embarcadero. Similarly, in the event that the proposed new Chula Vista and National City fireworks display events occur concurrently at the same time, the events are far enough apart that a single receptor would not be exposed to emissions from both fireworks display events in the future. Therefore, the proposed new Fourth of July fireworks display event at the Chula Vista Bayfront would not expose sensitive receptors to substantial pollutant concentrations, including TACs. Impacts would be less than significant.

Other Non-Fourth of July Fireworks Display Events

The two Chula Vista Bayfront non-Fourth of July fireworks display events would be small (approximately 114 pounds, or 2.1 percent of the Big Bay Boom, each) and the associated risk would be both small and at a far enough distance from other existing non-Fourth of July fireworks display events that a single receptor would not be exposed to emissions from multiple displays in the event that multiple displays occur concurrently in the future. Any acute exposure would be well below the acute hazard threshold of 1.0 (1.4 acute risk for Big Bay Boom (x) 2.1 percent = 0.03 HI). Therefore, the proposed new non-Fourth of July fireworks display events would not expose sensitive receptors to substantial pollutant concentrations, including TACs. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance includes a condition pertaining to reducing copper content in the fireworks, which would help to reduce risk associated with the Big Bay Boom. Compliance with the proposed ordinance would improve the existing condition by reducing Cu in the fireworks, which would help to reduce the acute risk associated with the Big Bay Boom. Therefore, the effect of the proposed ordinance on existing fireworks display events would not expose sensitive receptors to substantial pollutant concentrations, such as TACs. No significant adverse impacts would occur.

Table 4.2-16. Acute 1-hour Exposure Levels in Comparison to Air Quality Standards and Hazard Index for the 2015 Big Bay Boom Fireworks Display Event

Pollutant	Maximum Modeled Concentration ($\mu\text{g}/\text{m}^3$)	1-hour CAAQS/NAAQS ($\mu\text{g}/\text{m}^3$)¹	Exceed 1-hour CAAQS/NAAQS?	Maximum Acute Hazard Index²	Exceed Acute Hazard Index?³
Copper	138	--	--	1.4	<i>Yes</i>
Sulfur Dioxide	15.2	655/196	<i>No/No</i>	0.06	<i>No</i>
Nitrogen Dioxide	0.056	339/188	<i>No/No</i>	<0.001	<i>No</i>
Carbon Monoxide	0.057	23,800/40,000	<i>No/No</i>	<0.001	<i>No</i>
Formaldehyde	0.022	--	--	<0.001	<i>No</i>
Acetaldehyde	0.062	--	--	<0.001	<i>No</i>
Acrolein	0.005	--	--	<0.003	<i>No</i>

Source: Appendix E

¹ CAAQS and NAAQS are presented in Table 4.2-7.

² OEHHA has not published acute risk factors for hexavalent chromium.

³ The acute hazard index threshold is 1.0.

Carbon Monoxide Hot-spots

Elevated CO concentrations are typically found in areas with significant traffic congestion. CO is a public health concern because it combines readily with hemoglobin and reduces the amount of oxygen transported in the bloodstream, which can result in headaches, dizziness, fatigue, unconsciousness, and even death.

Proposed New Fireworks Display Events

The County recommends an analysis of localized CO concentrations associated with traffic congestion to ensure concentrations remain below CAAQS and NAAQS based on certain screening criteria (see Section 3.1.3.1 of the HRA in Appendix E).

The transportation assessment (Appendix J) analyzed the potential travel- and parking-related changes associated with fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront as a basis for estimating whether the proposed new fireworks display events along the National City and Chula Vista Bayfronts would result in traffic- or parking-related impacts.

Because it is most similar in size to the proposed new Fourth of July fireworks display events, the analysis looked at the Fourth of July Imperial Beach Fireworks Show, finding that changes in vehicular traffic at key intersections on the fireworks display event day was moderate in most locations, with an average increase of 46 percent, but bicycle and pedestrian activity were significantly increased by 578 percent and 1,993 percent, respectively. For roadway segments, changes in traffic volumes ranged between 14 percent and 92 percent, with an average increase of 37 percent.

The roadway segment that showed the greatest percentage increase in the sample Fourth of July fireworks display event day traffic volumes relative to non-event day conditions was Seacoast Drive between Elkwood Avenue and Daisy Avenue (92 percent increase relative to non-event day conditions), while the roadway segment with the highest volumes during the sample Fourth of July fireworks display event day was the Palm Avenue segment between 7th Street and Rainbow Drive (14 percent increase relative to non-event day conditions; 16,800 event day average daily traffic). However, the intersection with the highest peak hour volumes was the Imperial Beach Boulevard and Seacoast Drive intersection, which showed 2,228 vehicles during the peak 7:00 p.m.–11:00 p.m. period on the sample Fourth of July fireworks display event day. This intersection is the worst-case intersection on the sample Fourth of July fireworks display event day in terms of peak hour traffic volumes. To provide a conservative analysis of the worst-case CO concentrations that bicyclists, pedestrians, and the general public may be exposed to while viewing the fireworks display events or while exiting the viewing areas, CO concentrations were modeled at the Imperial Beach Boulevard and Seacoast Drive intersection assuming that the traffic volumes during this 4-hour window all occur during a single hour and the receptors are in the vicinity of the intersection (e.g., on the sidewalk) during this entire duration. Emissions factors were generated in EMFAC for the San Diego County fleet average operating in 2016. Emissions were based on a conservative assumption that all vehicles travel at 5 mph. Emission factors vary by meteorological conditions, and emissions were generated for a typical summertime minimum temperature (64°F) and humidity (70 percent).

Table 4.2-17 presents the results of the CO hot-spot modeling and indicates that implementation of the proposed project would not result in violations of the state or federal 1- or 8-hour CO standards. Consequently, the impact of traffic conditions from the proposed project on ambient CO levels is considered less than significant.

Note that while the analysis above to demonstrate the minimal effects of visitor VMT could not be based on traffic conditions associated with the Fourth of July Imperial Beach Fireworks Show given the distance to the monitoring station, the CO hot-spot analysis herein can use Imperial Beach as a comparison to determine hot-spot-related impacts because effects are localized and at the intersection in question, and not regional in nature like the VMT analysis.

Table 4.2-17. Modeled CO Levels Measured at Receptors in the Vicinity of the Affected Intersection

Intersection	Peak Event Day ^a	
	1-Hr	8-Hr
Imperial Beach Boulevard and Seacoast Drive	4.4	3.1
<i>Ambient Air Quality Standards (NAAQS/CAAQS)</i>	<i>35/20</i>	<i>9/9.0</i>
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>

Source: Appendix E

^a Background concentrations of 3.0 and 2.4 ppm were added to the modeling 1- and 8-hour results, respectively.

Fourth of July Fireworks Display Events

The proposed new Fourth of July National City and Chula Vista Bayfronts fireworks display events are anticipated to have similar traffic volumes as the Fourth of July Imperial Beach Fireworks Show discussed above due to the similar size of the proposed new displays (approximately 456 pounds each) and singular fireworks launch site. Because the worst-performing intersection during the Fourth of July Imperial Beach Fireworks Show results in CO concentrations far below NAAQS and CAAQS, CO concentrations associated with the Fourth of July National City and Chula Vista Bayfronts fireworks display events would also be far below NAAQS and CAAQS. Therefore, the proposed new Fourth of July fireworks display events would not expose sensitive receptors to substantial pollutant concentrations, including CO. Impacts would be less than significant.

Other Non-Fourth of July Fireworks Display Events

Similarly, the two Chula Vista Bayfront non-Fourth of July fireworks display events are anticipated to have lower traffic volumes than the Fourth of July Imperial Beach Fireworks Show because the displays would be much smaller (approximately 114 pounds each) and because fewer public viewing areas are available along the Chula Vista Bayfront. Because the worst-performing intersection during the Fourth of July Imperial Beach Fireworks Show event results in CO concentrations far below NAAQS and CAAQS, CO concentrations associated with the two non-Fourth of July Chula Vista Bayfront fireworks display events would also be far below NAAQS and CAAQS. Therefore, the proposed new non-Fourth of July fireworks display events would not expose sensitive receptors to substantial pollutant concentrations, including CO. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance includes a condition of approval requiring implementation of an Event Transportation and Parking Management Plan, which would help to improve roadway conditions by reducing congestion and would act to reduce pollutant concentrations at nearby receptor locations. Compliance with the proposed ordinance would improve the existing condition by improving roadway conditions under the Event Transportation and Parking Management Plan, which would help to reduce CO concentrations associated with the fireworks display events. Therefore, the effects of the proposed ordinance on existing fireworks display events would not expose sensitive

receptors to substantial pollutant concentrations, such as CO. No significant adverse impacts would occur.

Criteria Air Pollutants

Proposed New Fireworks Display Events

High levels of criteria pollutants are associated with some form of health risk (e.g., asthma, asphyxiation). Adverse health effects associated with criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). Moreover, ozone precursors (VOC and NO_x) affect air quality on a regional scale. Health effects related to ozone are therefore the product of emissions generated by numerous sources throughout a region. As part of the setting and updating of the NAAQS, EPA develops and considers quantitative characterizations of exposures and associated risks to human health or the environment associated, known as an HREA, with recent air quality conditions and with air quality estimated to just meet the current or alternative standard(s) under consideration (EPA 2016). The HREA estimates population exposure to and resulting mortality and morbidity health risks associated with the full range of observed pollutant concentrations, as well as incremental changes in exposures and risks associated with ambient air quality adjusted to just meeting the existing NAAQS and just meeting potential alternative NAAQS under consideration (EPA 2014). However, existing models have limited sensitivity to small changes in criteria pollutant concentrations and, as such, translating proposed project-generated criteria pollutants to specific health effects would produce meaningless results. In other words, increases in regional air pollution from project-generated VOC and NO_x would have no effect on specific human health outcomes that could be attributed to specific project emissions. However, other criteria pollutant emissions, including CO, PM₁₀, and PM_{2.5}, generally affect air quality on a localized scale. Health effects related to localized pollutants are the product of localized sources and emissions generated by numerous sources throughout a region. Certain air quality models, particularly dispersion models, have the ability to translate project-generated localized pollutants to specific health effects.

Pollutant concentrations from existing fireworks display events, particularly the Big Bay Boom, were reviewed to determine whether the proposed new fireworks display events would result in impacts related to criteria pollutants. Similar to the health risk assessment (Table 4.2-16), the Big Bay Boom was used to provide a comparison for all proposed new fireworks display events because the Big Bay Boom is by far the largest and most visited of the fireworks display events. Table 4.2-18 presents 24-hour pollutant concentrations at the MEI for pollutants that have CAAQS or NAAQS. As shown, the Big Bay Boom currently results in PM_{2.5} concentrations that exceed both the 24-hour NAAQS (35 µg/m³) and CAAQS (30 µg/m³) and PM₁₀ concentration that exceed the 24-hour PM₁₀ CAAQS (50 µg/m³). As discussed in detail in Section 3.1.3 of the HRA in Appendix E, the OBOD model appears to exhibit an over-prediction bias, but without additional data points to make a more definitive modeled-to-monitored comparison, it is difficult to draw a clear conclusion as to the model's bias.

The projected increase in PM₁₀ and PM_{2.5} emissions is short term and limited only to the largest fireworks display event day. Moreover, PM_{2.5} NAAQS and CAAQS and PM₁₀ CAAQS exceedance only occur on the Fourth of July.

Table 4.2-18. 24-hour Exposure Levels in Comparison with State and Federal Air Quality Standards for the 2015 Big Bay Boom Fireworks Display Event

Pollutant	Maximum Modeled Concentration (µg/m³)	Background Concentration (µg/m³)	Modeled plus Background Concentration (µg/m³)	24-Hour NAAQS (µg/m³)	24-hour CAAQS (µg/m³)
PM _{2.5} ¹	79.1	14.1	93.2	35	30
PM ₁₀ ²	117.0	24.5	141.5	150	50
Sulfur Dioxide ³	0.63	0.8	1.4	---	105
Lead ⁴	0.055	0.4	0.43	---	---

Source: Appendix E

¹ Background concentrations are the maximum concentration at the Beardsley Street (Barrio Logan) station for Fourth of July 2013 through 2016.

² PM₁₀ concentrations are not continuously monitored at Beardsley Street. Thus, background PM₁₀ concentrations are calculated based on the ratio of 24-hour PM_{2.5} and PM₁₀ concentrations from the Beardsley Street (Barrio Logan) station for each year shown in Table 4.2-3, and the maximum concentration over the 2013–2016 period was used (which occurred in 2013).

³ Sulfur dioxide (in ppm) was obtained from the El Cajon monitoring station and converted to µg/m³ based on the 2.619 conversion factor from EPA.

⁴ Lead concentrations are the maximum from the El Cajon and Carlsbad stations.

Bold indicates an exceedance.

Fourth of July Fireworks Display Events

The proposed new Fourth of July National City and Chula Vista Bayfronts fireworks display events would be smaller than the Big Bay Boom event used as a comparison for this analysis.

Concentrations from the quantitative analysis for the Big Bay Boom were scaled for the National City and Chula Vista Bayfronts fireworks display events and are compared to the CAAQS and NAAQS in Table 4.2-19. As shown, concentrations would be far below 24-hour PM₁₀ and PM_{2.5} CAAQS and NAAQS. Therefore, the proposed new Fourth of July fireworks display events would not expose sensitive receptors to substantial pollutant concentrations, including 24-hour PM₁₀ and PM_{2.5}. Impacts would be less than significant.

Table 4.2-19. 24-hour Exposure Levels in Comparison with State and Federal Air Quality Standards for the National City and Chula Vista Bayfront Fourth of July Fireworks Display Events

Pollutant	Maximum Modeled Concentration (µg/m³)	Background Concentration (µg/m³)	Modeled plus Background Concentration (µg/m³)	24-Hour NAAQS (µg/m³)	24-hour CAAQS (µg/m³)
PM2.5 ¹	6.8	14.1	20.9	35	30
PM10 ²	10.0	24.5	34.5	150	50
Sulfur Dioxide ³	0.1	0.8	0.8	---	105
Lead ⁴	0.005	0.4	0.4	---	---

Source: Appendix E

¹ Background concentrations are the maximum concentration at the Beardsley Street (Barrio Logan) station for Fourth of July 2013 through 2016.

² PM10 concentrations are not continuously monitored at Beardsley Street. Thus, background PM10 concentrations are calculated based on the ratio of 24-hour PM2.5 and PM10 concentrations from the Beardsley Street (Barrio Logan) station for each year shown in Table 4.2-3, and the maximum concentration over the 2013–2016 period was used (which occurred in 2013).

³ Sulfur Dioxide (in ppm) was obtained from the El Cajon monitoring station and converted to µg/m³ based on the 2.619 conversion factor from EPA.

⁴ Lead concentrations are the maximum from the El Cajon and Carlsbad stations.

Bold indicates an exceedance.

The proposed project would not significantly increase emissions of ozone precursors (VOC and NO_x), as fireworks-related emissions mainly include particulate matter, and fuel-related emissions from the tugs would be minimal. Regardless, project-generated ozone precursors could increase photochemical reactions and the formation of tropospheric ozone, which, at certain concentrations, could lead to respiratory symptoms (e.g., coughing), decreased lung function, and inflammation of airways. Although these health effects are associated with ozone, the impacts are a result of cumulative and regional VOC and NO_x emissions. However, the incremental contribution of the project to specific health outcomes related to criteria pollutant emissions would be limited and any effects thereof would be below any health-based significance threshold (e.g., NAAQS and CAAQS). Furthermore, while the incremental contribution could not be traced solely to the proposed project, the contribution of emissions attributable to the proposed project is considered less than significant after mitigation because the proposed project would result in emissions below thresholds that have been set by SDAPCD, which are designed to provide public health protection. The proposed project's contribution of emissions, including PM2.5, would be less than significant and operation of the proposed project would not result in adverse health effects associated with criteria pollutant emissions.

Other Non-Fourth of July Fireworks Display Events

The two non-Fourth of July Chula Vista Bayfront fireworks display events would be smaller than the Fourth of July fireworks display events modeled in Table 4.2-19 above (approximately 114 pounds each compared to approximately 456 pounds each); therefore, PM2.5 and PM10 concentrations would be less than those shown in Table 4.2-19 and far below PM10 and PM2.5 CAAQS and NAAQS. As such, the proposed new non-Fourth of July fireworks display events would not expose sensitive receptors to substantial pollutant concentrations, including 24-hour PM10 and PM2.5. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance includes conditions intended to reduce adverse impacts on air quality. The proposed ordinance would require all fireworks display events to use alternative fireworks technologies that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke, and reduce pollutant waste loading, which would reduce PM10 and PM2.5 emissions. However, the feasibility and availability of these alternative fireworks is not yet known. As such, compliance with the proposed ordinance could improve the existing condition by ensuring that all fireworks display events implement the latest and greatest technologies. Therefore, the effects of the proposed ordinance on existing fireworks display events would not expose sensitive receptors to substantial pollutant concentrations, such as PM10 and PM2.5. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation**Proposed New Fireworks Display Events**

The proposed new fireworks display events would not expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not expose sensitive receptors to substantial pollutant concentrations. Therefore, no significant adverse impacts would occur.

Mitigation Measures**Proposed New Fireworks Display Events**

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation**Proposed New Fireworks Display Events**

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 5: Implementation of the proposed project would not create objectionable odors affecting a substantial number of people.**Impact Discussion****Proposed New Fireworks Display Events**

Although offensive odors rarely cause any physical harm, they can be unpleasant and lead to considerable distress among the public. This distress may often generate citizen complaints to local governments and air districts. Any project with the potential to expose the public to objectionable odors would be deemed as having a significant impact.

According to ARB's *Air Quality and Land Use Handbook*, land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, and manufacturing (ARB 2005a). Odor impacts on residential areas and other sensitive receptors, such as hospitals, daycare centers, and schools, warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, work sites, and commercial areas.

Odor emitters include diesel exhaust from tug and barge activity, material deliveries, and any fumes generated during the fireworks themselves. However, odor impacts are limited to the vicinity immediately adjacent to tug activity, which is assumed to be a great enough distance from viewing locations not to result in objectionable odors that would affect a substantial number of people. Any odors would be infrequent and brief, and viewers of the proposed new fireworks display events would likely expect to experience these temporary odors. Thus, odor-related impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance does not include conditions pertaining to odor sources, and therefore would not result in any change to the existing condition in terms of odors. As such, the effects of the proposed ordinance on existing fireworks display events would not create objectionable odors affecting a substantial number of people. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation**Proposed New Fireworks Display Events**

The proposed new fireworks display events would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not create objectionable odors affecting a substantial number of people. No significant adverse impact would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impact would occur.

Section 4.3 Biological Resources

4.3.1 Overview

This section describes the existing conditions and applicable laws and regulations for biological resources, and analyzes the potential effect of the proposed project on candidate, sensitive, or special-status species, riparian habitat or other sensitive natural communities, federally protected wetlands, wildlife corridors and movement, and local policies, ordinances, and habitat conservation plans protecting biological resources.

The information contained in this section is based on the *Biological Technical Study for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project* prepared by Merkel & Associates (February 2017) found in Appendix F.

Table 4.3-1 summarizes the potentially significant impacts and mitigation measures discussed in detail in Section 4.3.4, *Project Impact Analysis*.

Table 4.3-1. Summary of Significant Biological Resources Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-BIO-1: Potential Direct Impact on Marine Reptiles from Fireworks-Generated Trash and Debris.	MM-BIO-1: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts, which require Specific Packaging Material, Best Management Practices, Compliance with San Diego Water Board General Permit, and Compliance with Other Required Permits.	Less than Significant	Implementation of these conditions of approval would ensure that fireworks-generated trash and debris are collected and disposed of, which would reduce this potential direct impact on green sea turtles to a less-than-significant level.
Impact-BIO-2: Potential Indirect Impacts on Marine Reptiles from Increased Human and Boating Human Activity.	MM-BIO-2: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Indirect Impacts, which require Cleanup, Security, Signage, and Education Measures.	Less than Significant	Implementation of the cleanup, security, signage, and education conditions of approval would reduce indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of green sea turtle habitat to less-than-significant levels.

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-BIO-3: Potential Direct Impact on Avian Species from Fireworks-Generated Trash and Debris.	Implement MM-BIO-1.	Less than Significant	Implementation of these conditions of approval would ensure that fireworks-generated trash and debris are collected and disposed of, which would reduce this potential direct impact on avian species to a less-than-significant level.
Impact-BIO-4: Potential Indirect Impacts on Special-Status Avian Species from Increased Human and Boating Human Activity.	Implement MM-BIO-2.	Less than Significant	Implementation of the cleanup, security, signage, and education conditions of approval would reduce indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of nesting and roosting areas to less-than-significant levels.
Impact-BIO-5: Potential Direct Impact on Sensitive Habitat and Wetlands from Fireworks-Generated Trash and Debris.	Implement MM-BIO-1.	Less than Significant	Implementation of these conditions of approval would ensure that fireworks-generated trash and debris are collected and disposed of, which would reduce this potential direct impact on sensitive habitat and wetlands to a less-than-significant level.
Impact-BIO-6: Potential Direct Impact on Eelgrass from Fireworks Barges and Tugboat Activity.	MM-BIO-3: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Eelgrass Impacts, which require Completion of Pre- and Post-Event Eelgrass Surveys, Conducting Tug Operator Training, and Controlling Thrust Rate and Angle to Minimize Propeller Wash.	Less than Significant	Implementation of this condition of approval would include requirements for fireworks barges and tugboats in the vicinity of eelgrass habitat, which would reduce this potential indirect impact to less-than-significant levels.

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-BIO-7: Potential Indirect Impact on Sensitive Habitat and Wetlands from Increased Human and Boating Activity.	Implement MM-BIO-2.	Less than Significant	Implementation of the cleanup, security, signage, and education conditions of approval would reduce indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of sensitive habitat and wetlands to less-than-significant levels.
Impact-BIO-8: Potential Indirect Impact on Usage of Nursery Sites from Increased Human Activity.	Implement MM-BIO-2.	Less than Significant	Implementation of the cleanup, security, signage, and education conditions of approval would reduce indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris on nesting birds to less-than-significant levels.
Impact-BIO-9: Potential Conflict with the City of San Diego and Chula Vista MSCP Subarea Plans.	Implement MM-BIO-1 and MM-BIO-2.	Less than Significant	Implementation of these conditions of approval would ensure that fireworks-generated trash and debris are collected and disposed of, which would reduce this potential direct impact on sensitive habitat and wetlands within the City of San Diego and City of Chula Vista planning subareas to a less-than-significant level. In addition, implementation of the cleanup, security, signage, and education measures would reduce indirect impacts related to increased boat traffic, foot traffic, and

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-BIO-10: Potential Conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan.	Implement MM-BIO-1 and MM-BIO-2 .	Less than Significant	<p>human-generated trash and debris in the vicinity of sensitive habitat and wetlands to less-than-significant levels.</p> <p>Implementation of these conditions of approval would ensure that fireworks-generated trash and debris are collected and disposed of, which would reduce this potential direct impact on sensitive habitat and wetlands within the San Diego Bay National Wildlife Refuge to a less-than-significant level. In addition, implementation of the cleanup, security, signage, and education measures would reduce indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of sensitive habitat and wetlands to less-than-significant levels.</p>

4.3.2 Existing Conditions

Existing fireworks display events that require a discretionary action by the District or that are operated by the District’s tenants occur within and/or adjacent to the District’s jurisdiction, particularly in and around the waters of San Diego Bay and the Pacific Ocean near Imperial Beach. Within San Diego Bay, these displays generally occur on barges, flight decks, and/or piers off of Shelter Island, Harbor Island, North Embarcadero, Central Embarcadero, South Embarcadero, within the Glorietta Bay inlet, and within the NASSCO ship repair facility. Within the Pacific Ocean, an existing fireworks display event occurs on the Imperial Beach Pier just off the coast of Imperial

Beach. The environmental setting for the entire San Diego Bay and coastal Imperial Beach has been included in the existing conditions to provide context for the following impact analysis. The impact analysis then focuses on the portions of the Bay (e.g., the south Bay) likely to be affected by the proposed new fireworks displays.

The sites for the proposed new fireworks display events are within and/or adjacent to the District's jurisdiction within San Diego Bay along the National City and Chula Vista Bayfronts. These proposed new displays are anticipated to occur on barges and/or piers within these locations. The biological impact analysis focuses on the various habitats, wildlife corridors, and wildlife present within San Diego Bay adjacent to and in the vicinity of the National City and Chula Vista Bayfront areas.

The analysis below makes use of existing biological information for San Diego Bay, including the San Diego Bay Integrated Natural Resources Management Plan (INRMP) prepared by the U.S. Navy in conjunction with the District (U.S. Navy 2013). Additionally, general information was drawn from surveys of the nearshore environment near Imperial Beach Pier, particularly from the 2011–2012 benthic habitat mapping for the U.S. Navy's Silver Strand Training Complex Boat Lanes (Merkel & Associates, Inc. 2011a, 2012), surveys performed offshore of the Imperial Beach Pier for nearshore beach nourishment (Merkel & Associates, Inc. 2011b), nearshore habitat mapping performed by San Diego Association of Governments (SANDAG 2002; Merkel & Associates, Inc. et al. 2004), studies completed for the Naval Base Coronado Naval Outlying Field in Imperial Beach (Tierra Data 2011; Merkel & Associates, Inc. 2014a), and beach monitoring performed in association with the regional beach nourishment program (Merkel & Associates, Inc. 2014b).

In addition, focused field investigations for marine mammals were conducted for this analysis during existing fireworks display events (Appendix F). Furthermore, prior observations of California least terns during existing fireworks display events in San Diego Bay and the Imperial Beach Oceanfront were used as a reference source for this analysis. Finally, a literature review was completed with a focus on effects of fireworks in coastal areas outside of the San Diego region, and the effects of pyrotechnics and loud sounds, in general, on marine resources. These additional references have been included in this analysis to supplement existing data sources for the proposed project.

4.3.2.1 Fireworks Display Events Setting

San Diego Bay Setting

San Diego Bay is a nearly enclosed, naturally formed embayment (Figure 4.3-1). The Bay was formed from the alluvial floodplains of the Otay, Sweetwater, and San Diego Rivers, and was historically shallow. The re-direction and channelization of the San Diego River beginning in the 1940s along with multiple dredging and channel-deepening projects have resulted in deep waters in the northern and central portions of the Bay (with deepest waters of 59 feet occurring at the mouth of the Bay), transitioning to shallow waters (less than 3 feet) at the southern end of the Bay (U.S. Navy 2013). The INRMP divides the Bay into multiple depth categories including: deep (> -20 feet mean lower-low water [MLLW]), moderately deep (-12 to -20 feet MLLW), shallow (-2.2 to -12 feet MLLW), and intertidal (-2.2 to +7.8 feet MLLW) (Figure 4.3-1). Currently, deep and moderately deep waters account for more than 50 percent of total Bay surface area (U.S. Navy 2013). In contrast, shallow subtidal habitat accounts for approximately 28 percent of Bay surface area, primarily in south San Diego Bay. Intertidal habitat currently accounts for only 7 percent of the Bay surface area.

The habitats of San Diego Bay are reflective of water depth and presence or absence of shoreline structures. More than 70 percent of the shoreline (45.4 miles out of a total 64.4 miles) of San Diego Bay is currently armored (U.S. Navy 2013). Armoring is primarily rock rip rap, but also includes vertical bulkhead walls, boat launch ramps, earthen dikes, and wharves. Additionally, there are over 130 acres of surface structures (e.g., piers, docks) within the Bay that currently shade intertidal and subtidal waters. The majority of the lands in the northern and central portions of the Bay are developed with a mix of commercial, recreational, and military uses.

The largest unarmored areas occur in the southern portion of the Bay. As such, the majority of undeveloped habitat also occurs in the southern portion of the Bay. Habitats in the southern portion of the Bay include southern coastal salt marsh, intertidal sand and mudflats, salt flats, and southern coastal foredune (Figure 4.3-1). The dominant vegetated subtidal habitat in San Diego Bay is eelgrass (*Zostera marina*); the most recent baywide eelgrass survey, completed in 2014, found 1,996 acres of eelgrass (Merkel & Associates, Inc. 2014c). This accounts for approximately 10.5 percent of the Bay surface area, with a majority of the total occurring in the shallow waters of the southern portion of the Bay. Salt marshes currently cover approximately 800 acres of the Bay, with a majority of this habitat composed of a network of marshes that form a non-contiguous patchwork in the south Bay (Figure 4.3-1). The marine habitats of San Diego Bay currently support several sensitive avian species, marine mammals, and reptiles. Habitats and sensitive species of San Diego Bay are described further below.

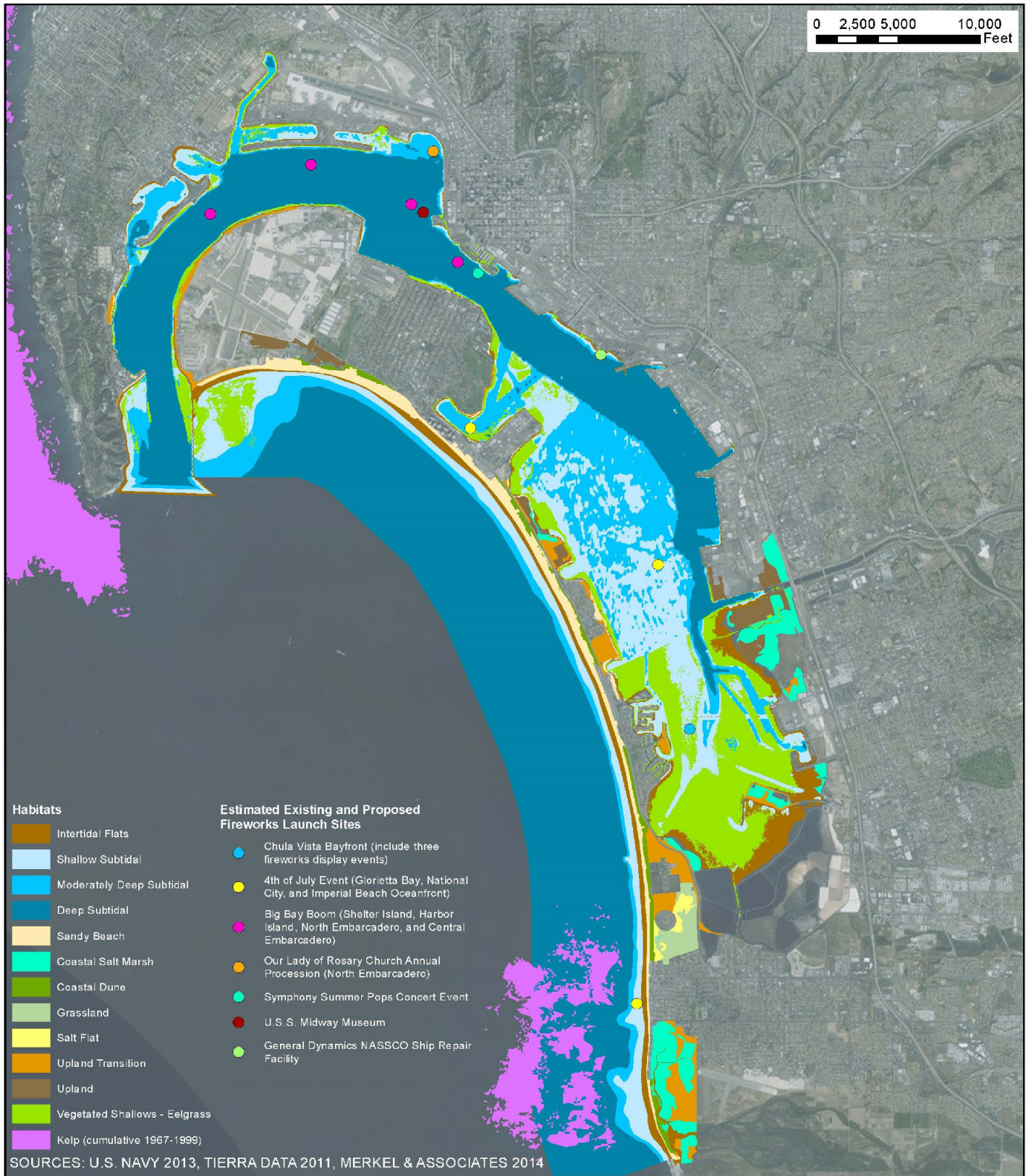
Coastal Imperial Beach Setting

The coastal Imperial Beach setting encompasses the beach and nearshore coastal waters adjacent to and surrounding Imperial Beach Pier. Within this area, the open coastal shoreline consists of a sand beach from north to south. Inland of the shoreline, approximately 0.6 mile to the north of the Pier, the uplands consist of ruderal, shrub, and grassland uplands within the U.S. Navy's Silver Strand Training Complex (Figure 4.3-1). Approximately 0.5 mile to the south of the Pier end and inland from the shore is the northern Oneonta Slough portion of the Tijuana River Estuary. This portion of the estuary is inland of a linear residential neighborhood along Seacoast Drive. The remaining environment away from the shoreline is urban developed lands. Finally, offshore of the Pier is a coastal environment supporting non-persistent kelp beds, sand, and cobble-bottom environments (Merkel & Associates, Inc. et al. 2004; Merkel & Associates, Inc. 2011b; SANDAG 2002).

4.3.2.2 Habitats

Subtidal Unvegetated Soft Bottom

The INRMP differentiates between shallow and deep subtidal habitat based on the biological values of these habitats (U.S. Navy 2013). Deep and moderately deep habitats maintain similar biological functions, while shallow habitat has the potential to support greater primary productivity and overall greater diversity of habitats and ecological communities. Within the Bay, unvegetated soft-bottom habitat consists of soft muds and silt, often overlying loose rubble along the edge of the hard shoreline revetments. Typical invertebrate species that inhabit these areas include burrowing bivalves (*Chione* spp., *Macoma nasuta*), the amphipod (*Grandidierella japonica*), bay ghost shrimp (*Neotrypaea* spp.), burrowing anemones (*Harenactis attenuata*), sabellid worms (Family Sabellidae), and tube-dwelling anemones. Other species typical of other non-vegetated areas of Southern California bays and harbors include sponges (*Phylum porifera*), nudibranchs and navanax (*Navanax*



inermis), sea hare (*Aplysia californica*), and bivalves including the invasive, nonnative Asian mussel (*Musculista senhousia*). Fish species typical of soft-bottom habitat include round stingray (*Urobatis halleri*), yellowfin goby (*Acanthogobius flavimanus*), and additional goby species (Family Gobiidae), barred sand bass and spotted sand bass (*Paralabrax nebulifer* and *Paralabrax maculatofasciatus*), specklefin midshipman (*Porichthys myriaster*), diamond turbot (*Pleuronichthys guttulatus*), and Pacific staghorn sculpin (*Leptocottus armatus*).

The majority of the nearshore environment off the Imperial Beach Pier supports unvegetated soft-bottom habitat of a principally sandy nature. Cobble beds occur near the Pier and are intermittently sanded over, unvegetated, or support poorly developed kelp canopy as described below. In addition, the soft-bottom habitat in this area supports chutes of shell hash and gravels.

Subtidal Vegetated Habitat

The vegetated, shallow subtidal habitat of San Diego Bay is dominated by eelgrass. Additionally, small amounts of widgeon grass (*Ruppia maritima*) occur in the warmer, shallow flats of south San Diego Bay. The baywide survey completed in 2014 indicated 1,996 acres of eelgrass is present within the Bay (Merkel & Associates, Inc. 2014c). Vegetated subtidal habitats are an essential component of Southern California's coastal marine environment. Eelgrass beds function as important habitat for a variety of invertebrate, fish, and avian species. For many species, eelgrass beds are an essential biological habitat component for at least a portion of their life cycles, providing resting and feeding sites along the Pacific Flyway for avian species, and nursery sites for numerous species of fish. Seagrass beds may be interspersed with red algae such as *Gracilaria verrucosa* and green algae, such as *Ulva* spp. Typical fish species associated with seagrass include pipefish (*Syngnathus* spp.), kelpfish (Family Clinidae), and surfperch (Family Embiotocidae) as well as schooling fish such as topsmelt (*Atherinops affinis*) and anchovy (*Anchoa* spp.).

Offshore of San Diego Bay, Pacific eelgrass (*Z. pacifica*) occurs near the entrance to San Diego Bay (Merkel & Associates, Inc. 2014c). To the southern end of the study area, kelp occurs intermittently on the cobble beds that are occasionally not sanded over and stable enough to support canopy kelp development. These beds are non-persistent and, over a 32-year period from 1967 to 1999, small fractions of the maximum extent of the beds had a maximum frequency of occurrence of only 19 percent of the survey years. The majority of the beds were represented less than 4 percent of the time (Merkel & Associates, Inc. et al. 2004; SANDAG 2002).

Open Water

The water column represents the largest habitat of San Diego Bay and the nearshore coastal area. This habitat is dominated by schooling fish species including topsmelt, northern anchovy (*Engraulis mordax*), and deepbody anchovy (*Anchoa compressa*). The occurrence of these species in open water is important to several species of piscivorous birds including pelicans, terns, loons, grebes, cormorants, and mergansers. These fish also provide an important forage base for numerous species of marine mammals.

Intertidal/Shallow Subtidal Riprap

As previously stated, an estimated 70 percent of the shoreline of San Diego Bay is armored, primarily with rock rip rap. The shoreline within the majority of the Bay is armored with rip rap to form a sloped revetment. Typical species observed along rip rap include native oyster (*Ostrea*

lurida), nonnative Pacific oyster (*Crassostrea gigas*), barnacles (*Balanus* spp.), mussels (*Mytilus* spp.), and tunicates such as *Styela plicata*. Tube-dwelling anemones (*Pachycerianthus* sp.) and tubed serpulid worms (Family Serpulidae) are also common. Crevices support spiny lobster (*Panulirus interruptus*). Rip rap supports a variety of algal species including *Egrecia menziesii*, *Sargassum* spp., *Ulva* spp., *Ceramium* spp., *Dictyota* spp., *Laurencia* spp., and *Enteromorpha* spp. (Davis et al. 2002). Fish species typically found along subtidal portions of rip rap are abundant and vary from the mouth of the Bay, which has more oceanic conditions, to protected marinas in the central and southern portions of the Bay. Species include opaleye (*Girella nigricans*), senioritas (*Oxyjulus californica*), garibaldi (*Hypsypops rubicundus*), rockfish (*Sebastes* spp.), spotted sand bass, and giant kelpfish (*Heterostichus rostratus*). Other structure-associated fish species likely to occur along this habitat include salema (*Xenistius californiensis*), juvenile black croaker (*Cheilotrema saturnum*), sargo (*Anisotremus davidsonii*), barred sand bass, and black surfperch (*Embiotoca jacksoni*) (U.S. Navy 2013).

Intertidal Flats

This habitat includes mudflats, sand flats, and salt flats that occur intertidally, typically along the unarmored shorelines of south San Diego Bay. Intertidal flats also occur in narrow bands along rip rap shorelines in quiescent coves and marinas of the Bay. This habitat provides an interface with open waters of the Bay, bringing tidal exchange to adjacent marshlands, and serving as outlets for stormwater runoff, nutrients, and sediment supply to the Bay. Intertidal flats are dominated by invertebrates that inhabit the sediments, providing an ample low-tide foraging area for shorebirds. As tides rise the flats become forage habitat for fish, dabbling waterfowl, and piscivorous birds. Common avian species along intertidal flats include sandpipers (*Calidris* spp.), willet (*Tringa semipalmata*), marbled godwit (*Limosa fedoa*), dowitchers (*Limnodromus* spp.), plovers (Family Charadriidae), eared grebe (*Podiceps nigricollis*), scaup (*Aythya* spp.), and surf scoter (*Melanitta perspicillata*). Fish species that forage on tidal flats during high tides include mullet (*Mugil cephalus*), California halibut (*Paralichthys californicus*), bat ray (*Myliobatis californica*), and gray smoothhound (*Mustelus californicus*).

Sandy Beach

This habitat includes coastal and bay sand beach environments that are located along narrow fringes between subtidal and supratidal habitats within areas of higher wave energy. The sand beach is best developed along the Silver Strand and Imperial Beach shoreline. The beach environments are generally heavily utilized by the public in areas that are publicly accessible and receive a much lower degree of use in areas that are found within non-recreational use Naval installations. Closed beach environments contain some southern coastal foredunes and are, in some instances, used as nesting and roosting environments for sensitive avian species and shorebirds.

Marshes

Coastal salt marsh habitat primarily occurs in south San Diego Bay and in the Tijuana Estuary as a series of noncontiguous remnants of once broader estuarine environments and restored wetlands. This fragmentation, along with channelization and redirection of rivers and creeks that historically drained into marshlands, and the threat of sea level rise, puts the remaining marshes at risk of decline. Many of the marshes in south San Diego Bay occur along unarmored shorelines, the largest of which is the E Street and Sweetwater Marsh complex south of the Sweetwater River Channel along the southeastern shoreline of the Bay within the San Diego Bay National Wildlife Refuge

(NWR). Other large marsh areas along unarmored shorelines include the D Street Fill, J Street Marsh, and Emory Cove. Finally, other marshes, including the Chula Vista Wildlife Reserve and within the South Bay Salt Ponds, have been restored and are currently protected from erosion by permeable dikes.

Marsh habitat provides important biological, water quality, and shoreline protection functions. Coastal salt marsh habitat is dominated by salt-tolerant vegetation including pickleweed (*Sarcocornia* and *Salicornia* spp.) and cordgrass (*Spartina foliosa*) that provides foraging habitat for numerous birds and nesting habitat for several sensitive avian species, particularly the federally and state-listed light-footed Ridgway's rail (*Rallus obsoletus levipes*) and the state-listed Belding's Savannah sparrow (*Passerculus sandwichensis beldingi*).

Upland Transition and Upland Areas

As mentioned previously, the majority of shoreline within San Diego Bay is armored. However, upland transition areas, particularly along unarmored shorelines, provide important foraging, roosting, and nesting habitat for birds. Among the most important upland transition areas are supratidal sand dunes and beaches adjacent to, and protected by, intertidal flats and marshes. These areas provide nesting habitat for additional sensitive avian species. Other transitional habitats adjacent to baylands include coastal scrub (maritime succulent scrub and sage scrub), created bay fills, and river mouths (where coastal salt marsh transitions to brackish, and riparian habitats). Ruderal lands supporting grasslands and saline flats are also present along the coastal strand environment. This is particularly true in the area of the Naval Outlying Field antenna array north of Imperial Beach Pier.

4.3.2.3 Wetlands and Sensitive Habitats

Wetlands, as defined by the U.S. Army Corps of Engineers (USACE), are present as coastal salt marshes, the largest of which are along the unarmored shorelines of south San Diego Bay. A small amount of freshwater and brackish marsh, as well as riparian scrub, occurs along the mouths of the creeks and rivers that enter the Bay and the wetlands of the Tijuana Estuary. The largest of the San Diego Bay wetlands include the Sweetwater River, Otay River, Chula Vista Wildlife Reserve, South San Diego Bay NWR, and Telegraph Creek. The brackish marsh and riparian scrub within the Bay and Imperial Beach Oceanfront are considered to have low functions and values based on a substantial alteration from historic conditions that has resulted from the channelization of river mouths into concrete-lined channels, and the highly urban setting through which the rivers flow to the Bay. The larger coastal salt marsh habitats represent a combination of remnants of historic wetlands and recently restored areas. This habitat is considered to have high biological, physical, and chemical functions and values. The marshes perform a high level of nutrient transformation, as rivers and creeks of the Bay drain into marsh vegetation. Coastal salt marshes within the Bay support complex biological communities and provide breeding habitat for several sensitive avian species.

Eelgrass is a rooted aquatic plant that inhabits shallow, soft-bottom habitats in quiet waters of bays and estuaries as well as sheltered coastal areas. It can form dense beds that provide substrate, food, and shelter for a variety of marine organisms. The majority of eelgrass beds in the Bay are found in water less than 20 feet deep, with light availability being the primary limiting factor for distribution and growth. Eelgrass beds are considered "special aquatic sites" under the Clean Water Act (CWA). Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, eelgrass is

designated as Essential Fish Habitat for various federally managed fish species within the Pacific Coast Groundfish and Pacific Coast Salmon Fisheries Management Plans (PFMC 2008). Eelgrass is also considered a habitat area of particular concern for various species within the Pacific Coast Groundfish Fisheries Management Plan.

4.3.2.4 Wildlife Corridors

The study area does not provide any terrestrial movement corridors, and no marine mammal, reptile, or fish migratory corridors occur within it. However, some marine fish species, such as anchovy, sardine, and topsmelt, likely move into and out of the Bay for spawning, nursery, and foraging. The southern portions of the Bay, including the South San Diego Bay Unit of the San Diego Bay NWR and South Bay Salt Ponds, provide stopover habitat for migrating waterfowl and shorebirds. San Diego Bay and the Imperial Beach shoreline, like all of California, is located within the Pacific Flyway. Several whale species migrate along the coast of California, including the California gray whale (*Eschrichtius robustus*). The peak northward migration of male gray whales occurs in mid-March, followed 2 months later by the second migration wave, which is composed of cows and calves. Whales typically do not occur within the immediate nearshore coastal waters of Imperial Beach or the adjacent Bay environment.

4.3.2.5 Candidate, Sensitive, and Special-Status Species

Special-status species are those plants or animals that have been officially listed, proposed for listing, or are candidates for listing as threatened or endangered under provisions of the Endangered Species Act (ESA) and the California Endangered Species Act (CESA), protected under the Marine Mammal Protection Act (MMPA), any animal species listed as a species of special concern or fully protected by the state, and plants listed on the California Rare Plant Ranking. Sensitive species also include those listed by local or regional jurisdictions. Species identified as protected, rare, sensitive, threatened, or endangered by the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), or California Department of Fish and Wildlife (CDFW) that are expected to be present in San Diego Bay and the Imperial Beach Oceanfront include multiple species of marine mammals, birds, and marine reptiles. The study area does not support any special-status or sensitive plant species. A list of the candidate, sensitive, and special-status wildlife species with a potential to occur within San Diego Bay and the Imperial Beach Oceanfront is provided in Table 4.3-2.

Terrestrial Wildlife

Birds

Four avian species listed by USFWS and/or CDFW as federally or state-listed as endangered or threatened have a high potential to occur within San Diego Bay and the Imperial Beach Oceanfront. These include California least tern (*Sternula antillarum brownii*), western snowy plover (*Charadrius alexandrinus nivosus*), light-footed Ridgway's rail, and Belding's Savannah sparrow.

The California least terns nests along the west coast of North America, from Baja California, Mexico, north to the San Francisco Bay area. California least terns are seasonal residents of San Diego Bay, typically arriving in mid- to late-April to nest at several colonies adjacent to San Diego Bay, and are generally present through August with September 15 marking the end of the season. California least terns can have two waves of nesting during this time period (CDFW 2016). California least terns

establish nesting colonies on sandy soils with little vegetation. Along the shores of San Diego Bay and south of the Imperial Beach Oceanfront, California least terns nest at multiple sites (Figure 4.3-2), including the runway ovals at San Diego International Airport; the airfield tarmac at Naval Air Station (NAS) North Island; on Delta and Echo Beaches at Naval Amphibious Base Coronado (NAB Coronado), which are managed by the U.S. Navy; on the D Street Fill; at the Chula Vista Wildlife Reserve; along the South Bay Salt Works levees and in Pond 11, which are managed by the District and USFWS; and along the beach of the Tijuana River National Estuarine Research Reserve south of the Imperial Beach Oceanfront. The most utilized nesting sites in 2015 were NAB Coronado (supporting between 707 and 779 nesting pairs), Tijuana River National Estuarine Research Reserve (supporting between 144 and 199 nesting pairs), the D Street Fill/Sweetwater Marsh NWR (supporting between 105 and 120 nesting pairs), and the San Diego International Airport (supporting between 8 and 18 nesting pairs) (Frost 2016). California least terns actively forage for fish in the waters adjacent to nesting colonies in San Diego Bay; foraging also occurs in open ocean waters and along the nearshore waters adjacent to beaches of Silver Strand and Imperial Beach.

The western snowy plover is a sparrow-sized, white and tan colored shorebird with dark patches on either side of the neck, behind the eyes, and on the forehead. The coastal western snowy plover population is defined as those individuals that nest adjacent to or near tidal waters and includes all nesting colonies on the mainland coast, peninsulas, offshore islands, adjacent bays, and estuaries. The breeding range of the coastal population of the western snowy plover extends along coastal beaches from the southern portion of Washington state to southern Baja California, Mexico. The recognized breeding season of the western snowy plover normally extends from March 1 through September 15. However, within San Diego Bay, USFWS reports that the core breeding season for plovers is March 1 through mid-July (Vissman pers. comm.). Western snowy plover nest along similar sandy flats and dunes as California least tern. In San Diego Bay, nesting occurs along the beach at NAS North Island, at NAB Coronado, which includes the entire beachfront north of Imperial Beach, and farther south along the Silver Strand Training Complex and the beaches of the Tijuana River National Estuarine Research Reserve. This species has not nested at the D Street Fill/Sweetwater Marsh NWR since 2000. Increasing amounts of vegetation along the shoreline have likely discouraged nesting at this location (Patton 2013).

The light-footed Ridgway's rail is a resident in coastal wetlands in Southern California and northern Baja California, Mexico. The species is threatened primarily by loss and degradation of the freshwater, brackish, and salt marsh habitat in which it breeds. The largest population of this species occurs in the Tijuana River National Estuarine Research Reserve. This location has typically supported greater than 100 breeding pairs, although estimates for the 2015 breeding season were 75 pairs (Zemba et al. 2014). Much smaller populations (fewer than five pairs) have been observed at other marsh locations in San Diego Bay including E, F&G, and J Street Marshes and the Sweetwater Marsh within the Chula Vista Bayfront region, and at the Otay River Mouth. The core breeding season for Ridgway's rails in San Diego Bay has been reported to be mid-February through mid-June and into July (Vissman pers. comm.).

Belding's Savannah sparrow ranges along the southern California coast from Santa Barbara County (Goleta Slough) in the north into Baja California, Mexico (near El Rosario) in the south. The species is unique in that it is a year-round resident of salt marshes and is reliant upon this habitat to meet all of its life cycle requirements. The species is threatened by loss and degradation of the salt marsh habitat in which it lives and breeds. In San Diego Bay, the largest population of Belding's Savannah sparrow is found at the Tijuana River National Estuarine Research Reserve (318 territories surveyed in 2015), the Sweetwater Marsh NWR (222 territories surveyed in 2015), and the south

San Diego Bay unit of the San Diego Bay NWR (158 pairs at the South Bay Salt Works and Otay River) (Zemba et al. 2015). Smaller populations are located in Paradise Marsh, F&G Street Marsh, and Chula Vista Wildlife Reserve.

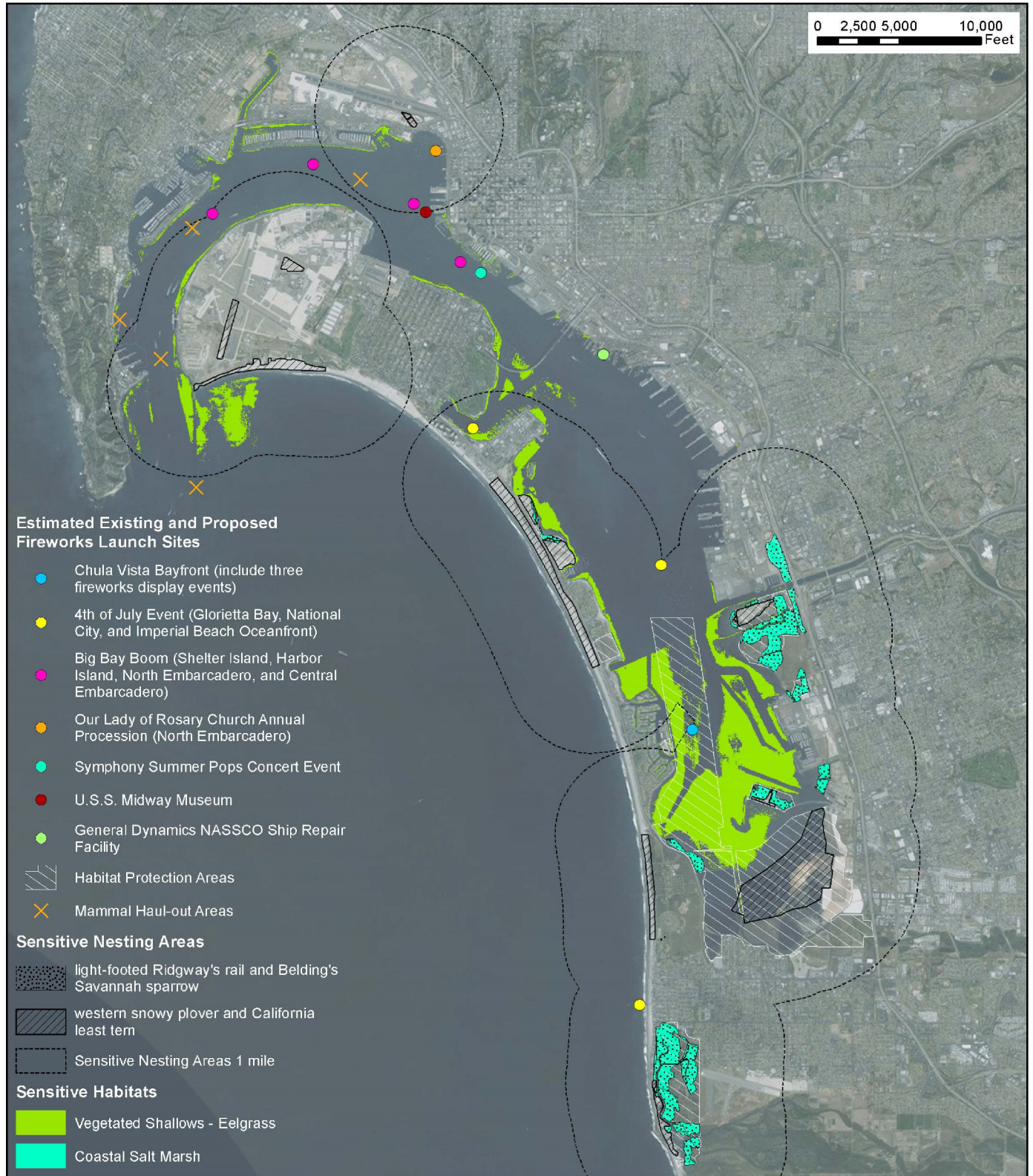
Other sensitive avian species with high potential to occur in the study area include California brown pelican (*Pelecanus occidentalis californicus*) and double-crested cormorant (*Phalacrocorax auritus*), both of which are protected at nesting colonies and at communal roosting areas. California brown pelicans roost in small groups throughout the Bay, particularly along Zuniga jetty, rip rap shorelines, and docks and piers in the northern portion of the Bay. Double-crested cormorants nest within San Diego Bay at the South Bay Salt Works. They roost and forage throughout the Bay. Other sensitive avian species known to nest on the South Bay Salt Works levees include elegant tern (*Thalasseus elegans*), Caspian tern (*Hydroprogne caspia*), and black skimmer (*Rynchops niger*) (Unitt 2004), all of which are protected at nesting colonies. These species nest on the ground in similar unvegetated sandy habitat as the California least tern. Sensitive raptors include osprey (*Pandion haliaetus*), northern harrier (*Circus cyaneus*), and American peregrine falcon (*Falco peregrinus anatum*), all of which are protected at nesting locations. Osprey is known to nest within San Diego Bay, with recent nests located at NAS North Island, the National City shoreline, and at the Chula Vista Wildlife Reserve. Northern harrier nests on the ground, within marshes and grasslands. This species has been known to nest in south San Diego Bay, within the Tijuana River National Estuarine Research Reserve and the Sweetwater Marsh NWR (Unitt 2004). Peregrine falcon has historically nested in Point Loma, on downtown San Diego buildings, and on the Coronado Bridge.

Marine Wildlife

Mammals

All marine mammals are protected under the MMPA of 1972, and some are also protected by the ESA of 1973. Marine mammal species may forage in the Bay but do not breed there (U.S. Navy 2013). Occurrences and probability of marine mammals within the Bay can be categorized into three levels, as follows (U.S. Navy 2013):

- Species known to regularly occur within San Diego Bay
 - California sea lion (*Zalophus californianus californianus*)
 - Coastal bottlenose dolphin (*Tursiops truncatus*)
- Species that are occasional to frequent visitors to San Diego Bay
 - Pacific harbor seal (*Phoca vitulina richardsi*)
 - Gray whale (*Eschrichtius robustus*)
- Species that have potential for isolated occurrences in San Diego Bay
 - Northern elephant seal (*Mirounga angustirostris*)
 - Long-beaked common dolphin (*Delphinus capensis*)
 - Pacific white-sided dolphin (*Lagenorhynchus obliquidens*)
 - Short-finned pilot whale (*Globicephala macrorhynchus*)
 - Minke whale (*Balaenoptera acutorostrata*)
 - Finback whale (*Balaenoptera physalus*)



California sea lion and, to a lesser extent, Pacific harbor seal are the two most common species of marine mammals that occur in San Diego Bay and adjacent coastal waters. Neither species breeds within San Diego Bay, but both spend time foraging and loafing in the waters of the Bay. California sea lions inhabit the entire western coast of North America from central Mexico through the Canadian coastline. The majority of the West Coast population is in the Bight because most sea lions breed at the Channel Islands (U.S. Navy 2013). California sea lions are highly sexually dimorphic. Males are larger, averaging 2.4 meters and 390 kilograms, while females only reach 2.0 meters and average 110 kilograms. Pronounced sagittal crests easily identify adult males. The coat color varies from sandy brown to dark brown. They feed on squid and a variety of schooling fish. Sea lions are frequently observed loafing on buoys, and foraging around bait barges and fishing piers (U.S. Navy 2013). California sea lions are year-round residents of San Diego Bay and are more common in the northern portion of the Bay. Individuals are rarely observed in the south Bay region, due to lack of haul out areas and minimal fishing activity (e.g., fishing piers and bait barges).

Harbor seals range from Alaska to Baja California, with a majority of the population occurring in northern waters (U.S. Navy 2013). Harbor seals prefer to loaf and forage in protected inlets and embayments. They eat multiple fish species as well as invertebrates such as octopus. The nearest breeding colony for this species is at the Children's Pool in La Jolla. While harbor seals will occasionally haul out and loaf on intertidal rip rap, they prefer to haul out on protected sandy and rocky beaches, and no large haul-out areas for this species occur in San Diego Bay. Harbor seals are less frequently encountered in San Diego Bay and nearshore waters, but they are not rare in the area. They are generally less social in the water than sea lions and are naturally less obvious or abundant in their presence. Similar to California sea lions, harbor seals are rarely observed in south San Diego Bay.

California gray whales are seasonal migrants, traveling up and down the coastline in offshore waters of the Pacific Ocean. They are the object of most of the whale watching in the area. They pass through the area twice during their yearly migrations. The peak northward migration of male gray whales occurs in mid-March, followed 2 months later by the second migration wave, which is composed of cows and calves. These whales migrate from wintering grounds in Baja California, Mexico, northward to Alaska. The southbound migration occurs in late December and January, from Alaska to Mexico. The gray whale does not breed in San Diego Bay or the immediate vicinity, and individuals enter the waters of San Diego Bay only on rare occasions. Individuals that do enter the Bay typically remain close to the entrance channel or in the northern portion of the Bay. Grey whales would not be present during the existing fireworks display events that occur during the summer months, nor do they travel to the southern portion of the Bay.

Coastal bottlenose dolphins are distributed world-wide in tropical and warm-temperate waters, including California, where separate coastal and offshore populations are known to exist (Caretta et al. 2004). California coastal bottlenose dolphins are found within about 1 kilometer of shore primarily from Point Conception south into Mexican waters. They are commonly observed traveling and foraging just outside of the surf zone along San Diego beaches. Bottlenose dolphins are regularly observed in the northern portion of San Diego Bay, particularly in the northern channels (U.S. Navy 2013). This species tends to stay within these relatively deep channels where prey is most abundant. However, bottlenose dolphins are rare visitors to southern portions of San Diego Bay. Other dolphin species, including Pacific white-sided dolphin and common dolphin, have been observed in the waters of San Diego Bay; however, these species are considered rare visitors within the Bay (U.S. Navy 2013).

Marine Reptiles

South San Diego Bay supports a population of eastern Pacific green sea turtles (*Chelonia mydas*) of between 16 and 61 individuals that primarily remain in the warm waters of south San Diego Bay, though some are known to leave the Bay to nest on the beaches of offshore islands of Mexico (Eguchi et al. 2010). Long-term acoustic tagging and satellite tracking studies by NMFS indicate that the population has historically congregated in the warm waters of the cooling water discharge channel at the now-closed South Bay Power Plant in south San Diego Bay. The shutdown of the South Bay Power Plant has made movements of turtles harder to predict. Recent tracking studies have noted turtles utilizing areas of the Bay much farther north than their historically recognized foraging areas, but are still primarily south of the Sweetwater River Channel (Bredvik et al. 2015). However, it is unlikely that green sea turtles extensively utilize the northern end of the Bay due to the cooler water temperatures relative to south San Diego Bay, a lack of eelgrass, and a paucity of alternative forage such as the red algae (*Gracilaria* sp.). Tracking data from 2016 indicate that the turtles' home range is south of the Sweetwater Channel, where they spend 95 percent of their time (District 2016). Regardless, very rare occurrences of the turtle in the north Bay cannot be ruled out given how little is known about turtle activities.

Table 4.3-2. Sensitive Wildlife Species with Potential to Occur within San Diego Bay and Imperial Beach Oceanfront

Common Name (<i>Scientific Name</i>)	Sensitivity Code & Status	Potential to Occur
Marine Reptiles		
Green Sea Turtle (<i>Chelonia mydas</i>)	FT	Low Potential
Birds		
Brant (<i>Branta bernicla</i>)	CDFW SSC	High Potential: Winters in south Bay along Chula Vista Bayfront
California Brown Pelican (<i>Pelecanus occidentalis californicus</i>)	CDFW FP	Moderate Potential: No nesting, roosts on rip rap, docks, pilings, etc.
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	CDFW WL	High Potential: Nests in South Bay Salt Works
Northern harrier (<i>Circus cyaneus</i>)	CDFW SSC	Moderate Potential: Nests in marshes in south Bay
Osprey (<i>Pandion haliaetus</i>)	CDFW WL	High Potential: Nests at NAS North Island and the Chula Vista Wildlife Reserve
American peregrine falcon (<i>Falco peregrinus anatum</i>)	CDFW FP, FWS BCC	Low Potential: May nest along Bayfront
Light-footed Ridgway's rail (<i>Rallus obsoletus levipes</i>)	CDFW FP, FWS BCC, FE, SE	High Potential: Nests in marshes of south Bay
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	FT	High Potential: Nests on sand flats of Bay
California Least tern (<i>Sternula antillarum browni</i>)*	FE, SE	High Potential: Nests on sand flats of Bay
Caspian tern (<i>Hydroprogne caspia</i>)	FWS BCC	High Potential: Nests in South Bay Salt Works
Black skimmer (<i>Rynchops niger</i>)	CDFW SSC	High Potential: Nests in South Bay Salt Works
Elegant tern (<i>Thalasseus elegans</i>)	CDFW WL	High Potential: Nests in South Bay Salt Works
Belding's Savannah sparrow (<i>Passerculus sandwichensis beldingi</i>)	SE	High Potential: Nests in marshes of south Bay and Tijuana Estuary
Mammals		
Pacific harbor seal (<i>Phoca vitulina richardsi</i>)	MMPA	Moderate Potential: Forages in north Bay and is uncommon in the south Bay
California sea lion (<i>Zalophus californianus californianus</i>)	MMPA	High Potential: Forages and loafs in the north Bay with uncommon occurrences in the south Bay
Coastal bottlenose dolphin (<i>Tursiops truncatus</i>)	MMPA	Moderate Potential: Uncommon forager in deep channels of the north Bay
California gray whale (<i>Eschrichtius robustus</i>)	MMPA	Very Low Potential: Regular migrant in offshore waters, but uncommon in Bay and nearshore waters

Source: Appendix F

SE = state-listed as endangered; **FE** = federally listed as endangered; **FT** = federally listed as threatened; **CDFW SSC** = CDFW Species of Special Concern; **CDFW-FP** = CDFW Fully Protected Species; **CDFW-WL** = CDFW Watch List; **FWS-BCC** = USFWS Bird of Conservation Concern; **MMPA** = species protected by the Marine Mammal Protection Act

*Least terns are a migratory species found in the area from approximately April 1 through September 15 of each year.

4.3.3 Applicable Laws and Regulations

4.3.3.1 Federal

Coastal Zone Management Act of 1972

The U.S. Congress recognized the importance of meeting the challenge of continued growth in the coastal zone by passing the Coastal Zone Management Act in 1972. The act, administered by the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources and balances economic development with environmental conservation.

The Coastal Zone Management Act outlines two national programs. The National Coastal Zone Management Program includes 34 coastal programs that aim to balance competing land and water issues in the coastal zone. The National Estuarine Research Reserve System creates field laboratories that provide a greater understanding of estuaries and how humans affect them. The overall program objectives of the act are to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The Coastal Zone Management Act ensures that development projects in coastal areas are designed and sited in a manner that is consistent with coastal zone land uses, maximizes public health and safety, and ensures that biological resources (e.g., wetlands, estuaries, beaches, and fish and wildlife and their habitat) within the coastal zone are protected. The enforceable policies of that document are Chapter 3 of the California Coastal Act of 1976 (as amended). The California Coastal Commission enforces the Coastal Zone Management Act by certifying that the proposed project is consistent with the California Coastal Act.

Rivers and Harbors Act (Section 10)

Pursuant to Section 10 of the Rivers and Harbors Act, USACE is authorized to regulate structures within or over any navigable water of the United States (WoUS). The Rivers and Harbors Act Section 10 jurisdiction is defined as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use, to transport interstate or foreign commerce" (33 Code of Federal Regulations [CFR] 322). The San Diego Bay is considered a traditional navigable water regulated under Section 10 of the Rivers and Harbors Act. Static positioning of any fireworks barges using a temporary mooring is not proposed.

Endangered Species Act of 1973

Species listed as endangered and/or threatened by USFWS are protected under Section 9 of the federal ESA, which forbids any person to "take" an endangered or threatened species. *Take* is defined in Section 3 of the act as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The term *harm* is defined as an "act which actually kills or injures wildlife," including through "significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife." The term *harass* means an act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering. (50 CFR 17.3). Sections 7 and 10 of the act may authorize "incidental take" for an otherwise lawful activity (a development project, for example) if it is determined that the activity would not jeopardize survival

or recovery of the species. Section 7 applies to projects where a federally listed species is present and there is a federal nexus, such as a federal CWA Section 404 permit (e.g., impacts on WoUS) that is required. Section 10 applies when a federally listed species is present but no federal nexus is present.

Marine Mammal Protection Act of 1972

The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States. Under the MMPA, *take* is defined as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal” (16 United States Code [USC] 1362) and further defined by regulation (50 CFR 216.3) as “to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal.” Congress passed the MMPA based on the following findings and policies: (1) some marine mammal species or stocks may be in danger of extinction or depletion as a result of human activities, (2) these species or stocks must not be permitted to fall below their optimum sustainable population level (depleted), (3) measures should be taken to replenish these species or stocks, (4) there is inadequate knowledge of the ecology and population dynamics, and (5) marine mammals have proven to be resources of great international significance.

The MMPA was amended substantially in 1994 to provide for: (1) certain exceptions to the take prohibitions, such as for Alaska Native subsistence, and for permits and authorizations for scientific research; (2) a program to authorize and control the taking of marine mammals incidental to commercial fishing operations; (3) preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; and (4) studies of pinniped-fishery interactions. NMFS and USFWS administer the MMPA. Under the 1994 amendments to the MMPA, harassment was separated into two categories and is statutorily defined as any act of pursuit, torment, or annoyance that:

- Has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or
- Has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but that does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B harassment).

Proposed projects must be analyzed to ensure that marine mammals protected under the MMPA would not be harassed or injured as a result of project activities. Any project activities that may result in Level A or B harassment or mortality would require consultation with NMFS under the MMPA.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was enacted in 1918 to prohibit the killing or transport of native migratory birds, or any part, nest, or egg of any such bird, unless allowed by another regulation adopted in accordance with the MBTA. A list of migratory bird species that are protected by the MBTA is maintained by USFWS, which regulates most aspects of the taking, possession, transportation, sale, purchase, barter, exportation, and importation of migratory birds. Under the MBTA, *take* means to kill, directly harm, or destroy individuals, eggs, or nests or to otherwise cause failure of an ongoing nesting effort. Permits are available under the MBTA through USFWS, and

authorization for potential take under the MBTA is addressed as part of the ESA Section 7 consultation process. The proposed project must be analyzed to ensure consistency with the MBTA, including avoidance of take of nesting birds, their eggs, or activities that may cause nest failure. This applies for both terrestrial and marine migratory species protected under the MBTA that may be directly or indirectly affected by the proposed project. Any potential take must be either permitted through consultation with USFWS or avoided and minimized through mitigation measures.

Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972, commonly known as the CWA (33 USC 1251–1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Discharges into WoUS are regulated under CWA Section 404. WoUS include: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, or natural ponds; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above. Important applicable sections of the CWA are discussed below.

- **Section 303** requires states to develop water quality standards for inland surface and ocean waters and submit them to the U.S. Environmental Protection Agency for approval. Under Section 303(d), the states are required to list waters that do not meet water quality standards and to develop action plans, called total maximum daily loads, to improve water quality.
- **Section 304** provides for water quality standards, criteria, and guidelines.
- **Section 401** requires an applicant for any federal permit that proposes an activity that may result in a discharge to WoUS to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by the respective Regional Water Quality Control Board (RWQCB). A Section 401 certification from the San Diego RWQCB (SDRWQCB) would be required for the proposed project if a Section 404 permit and Rivers and Harbor Act (Section 10) permit are required.
- **Section 402** establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into WoUS. The NPDES program is administered by SDRWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401. All construction activities must be consistent with Section 402 of the CWA and avoid significant water quality-related impacts. See Section 4.6, *Hydrology and Water Quality*, for an analysis related to the proposed project’s impacts on water quality.
- **Section 404** provides for issuance of dredge/fill permits by USACE. Permits typically include conditions to minimize impacts on water quality. Common conditions include: (1) USACE review and approval of sediment quality before dredging; (2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring; and (3) requiring compensation for loss of WoUS. The project does not propose any fill or dredge.

National Wildlife Refuge System Administration Act of 1966

The National Wildlife Refuge System Administration Act of 1966 consolidated the various categories of lands, administered by the Secretary of the Interior through USFWS, into a single National Wildlife Refuge System. The act establishes a unifying mission for the Refuge System, a process for determining compatible uses of refuges, and a requirement for preparing comprehensive conservation plans. The act states, first and foremost, that the mission of the National Wildlife Refuge System be focused singularly on wildlife conservation. In addition, the Refuge Administration Act identifies six priority wildlife-dependent recreation uses, clarifies the Secretary's authority to accept donations of money for land acquisition, and place restrictions on the transfer, exchange, or other disposal of lands within the Refuge System (NOAA 2012).

San Diego Bay National Wildlife Refuge Final Comprehensive Conservation Plan and Environmental Impact Statement

The San Diego Bay National Wildlife Refuge is managed by USFWS as part of the National Wildlife Refuge System. A Comprehensive Conservation Plan is prepared pursuant to the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997. USFWS manages the Sweetwater Marsh and South San Diego Bay Units of the San Diego Bay NWR in accordance with the approved August 2006 Comprehensive Conservation Plan. The Comprehensive Conservation Plan provides long-range guidance on refuge management through its vision, goals, objectives, and strategies. The Comprehensive Conservation Plan also provides a basis for a long-term adaptive management process including implementation, monitoring progress, evaluating and adjusting, and revising plans accordingly (USFWS 2006).

4.3.3.2 State

California Coastal Act of 1976

The California Coastal Act of 1976 recognizes California ports, harbors, and coastline beaches as primary economic and coastal resources and as essential elements of the national maritime industry. Decisions to undertake specific development projects, where feasible, are to be based on consideration of alternative locations and designs in order to minimize any adverse environmental impacts. The California Coastal Act is implemented by District for the land and water within its jurisdiction, subject to oversight by the Coastal Commission.

California Endangered Species Act

The CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect both a state- and federally listed species, compliance with the federal ESA will satisfy the CESA if CDFW determines that the federal incidental take authorization is consistent with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in a take of a state-only listed species, the project proponent must apply for a take permit under Section 2081(b).

California Fish and Game Code

The Fish and Game Code establishes the Fish and Game Commission, as authorized by Article IV, Section 20, of the Constitution of the State of California. The Fish and Game Commission is responsible, under the provisions of Sections 200–221, for regulating the take of fish and game, not including the taking, processing, or use of fish, mollusks, crustaceans, kelp, or other aquatic plants for commercial purposes. However, the Fish and Game Commission does regulate aspects of commercial fishing, including fish reduction; shellfish cultivation; take of herring, lobster, sea urchins, and abalone; kelp leases; leases of state water bottoms for oyster allotments; aquaculture operations; and other activities. These resource protection responsibilities involve the setting of seasons, bag and size limits, and methods and areas of take, as well as prescribe the terms and conditions under which permits or licenses may be issued or revoked by CDFW. The Fish and Game Commission also oversees the establishment of wildlife areas and ecological reserves and regulates their use, as well as setting policy for CDFW.

Sections 3503, 3503.5, 3505, 3800, and 3801.6 of the Fish and Game Code protect all native birds, birds of prey, and all nongame birds, including their eggs and nests, that are not already listed as fully protected and that occur naturally within the state. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, falcons), including their nests or eggs. As defined in the Fish and Game Code, *take* means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (Fish and Game Code Section 86).

CDFW is a lead state agency that manages native fish, wildlife, plant species, and natural communities for their ecological value and their benefits to people. CDFW oversees the management of marine species through several programs, some in coordination with NMFS and other agencies.

The California Eelgrass Mitigation Policy is administered by NMFS. The effects of the proposed project on any surrounding eelgrass beds and any compensatory mitigation would be addressed under the Southern California Eelgrass Mitigation Policy. In addition, CDFW jointly manages (with NMFS) the implementation of the Caulerpa Control Protocol, which requires a survey for Caulerpa be conducted before any bottom-disturbing activities.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the California equivalent of the federal CWA. It provides for statewide coordination of water quality regulations through the establishment of the State Water Resources Control Board (SWRCB) and nine separate RWQCBs that oversee water quality on a day-to-day basis at the regional/local level. The RWQCBs regulate actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code Section 13260(a)), pursuant to provisions of the Porter-Cologne Act. Waters of the state (WoS) are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code Section 13050 (e)).

The RWQCB also regulates WoS under Section 401 of the CWA. A Water Quality Certification or a waiver must be obtained from the RWQCB if an action would potentially result in any impacts on jurisdictional WoS. The proposed project must be analyzed to determine if it will result in any impacts on WoS, and any potential impacts would require an application for an RWQCB Water Quality Certification (or waiver), consultation with the RWQCB, and compensatory mitigation.

On June 1, 2011, SDRWQCB issued a General NPDES Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States in the San Diego Region from the Public Display of Fireworks (No. R9-2011-0022) (General Permit) for residual firework pollutant waste discharges to WoUS in the San Diego region from the public display of fireworks. All fireworks displays conducted in San Diego Bay are required to comply with the General Permit.

4.3.3.3 Local

Port Master Plan

Through implementation of the Port Master Plan (PMP), the District maintains authority over tidelands and submerged lands conveyed in trust to the District by the California legislature. Any amendments to the PMP must be adopted by the Board of Port Commissioners and then certified by the California Coastal Commission. Under the certified PMP, the District has the authority to issue coastal development permits for projects within its jurisdiction. The PMP provides for the protection of biological resources and states that the District will remain sensitive to the needs of, and will cooperate with, other communities and other agencies in Bay and tideland development.

San Diego Unified Port District Code, Ordinance 19

Sections 55 and 56 of the San Diego Unified Port District Act require the Board of Port Commissioners to make and enforce necessary rules and regulations governing the use and control of all navigable waters, tidelands, and submerged lands within the District and to make and enforce certain local police and sanitary regulations relating to the District. As such, the adoption of Ordinance 19 established a system for the codification of District ordinances.

Ordinance 19 covers topics such as watercraft speed regulations, aquatic activities, anchoring or mooring in the Bay, regulations in the parks, diving activities, alcohol use, stormwater control, and fishing, among others. Specific to the proposed project, Sections 4.30, 4.35, 4.36, and 4.40 of Ordinance 19 establish restrictions for anchoring and mooring of vessels, such as fireworks barges, in the Bay, including identification of allowable anchoring activities and areas.

Chula Vista Bayfront Master Plan Natural Resources Management Plan

The Chula Vista Bayfront Master Plan Natural Resources Management Plan (NRMP) was prepared by the District and the City of Chula Vista and was adopted in May 2016. It contains goals, objectives, and strategies for promoting and enhancing natural resources within the 535-acre Chula Vista Bayfront area. It serves as an important environmental guidance and implementation document, applicable to all development within the Chula Vista Bayfront area. All projects, both public and private, will be evaluated by the District and City of Chula Vista relative to furthering the goals, objectives, standards, and strategies contained therein. The Chula Vista Bayfront Master Plan NRMP allows a maximum of three fireworks events to occur per year, all outside of California least tern nesting season (March 15 through August 31) except on the Fourth of July, which may be allowed if in full regulatory compliance and if nesting colonies are monitored during the event with any impacts reported to the Wildlife Advisory Committee, so they can be addressed.

San Diego Bay Integrated Natural Resources Management Plan

The District and U.S. Navy jointly implement the INRMP. This long-term strategy document provides direction and planning guidance for good stewardship of the natural resources within San Diego Bay. The INRMP does not carry regulatory authority, but rather includes objectives and policy recommendations to guide planning, management, conservation, restoration, and enhancement of the Bay ecosystem. The core strategies of the plan are to: (1) manage and restore habitats, populations, and ecosystem processes; (2) plan and coordinate projects and activities so that they are compatible with natural resources; (3) improve information sharing, coordination, and dissemination; (4) conduct research and long-term monitoring that supports decision-making; and (5) put in place a Stakeholder's Committee and Focus Subcommittees for collaborative, ecosystem-based problem-solving in pursuit of the goal and objectives.

City of San Diego Multiple Species Conservation Program Subarea Plan

In the City of San Diego, local habitat, species, and biological resources are protected under the City of San Diego Multiple Species Conservation Program (MSCP), which is implemented through the MSCP Subarea Plan (City of San Diego 1997). The City of San Diego MSCP Subarea Plan was developed to meet the requirements of the California Natural Communities Conservation Planning Act of 1992, and as such serves as the City of San Diego's approved local natural community conservation plan. To implement its portion of the MSCP preserve, the City of San Diego developed the Multi-Habitat Planning Area (MHPA), which is considered an urban preserve that delineates core biological resource areas and corridors targeted for conservation. MHPA lands are typically constrained by existing or approved development, and comprise linkages connecting several large areas of habitat. The closest designated MHPA is approximately 1.25 miles south of the proposed barge location for the fireworks display events along the Chula Vista Bayfront, and encompasses the southeastern portion of the South San Diego Bay Unit of the San Diego Bay NWR (USFWS 2006). The proposed project is not located within the City of San Diego MSCP; however, due to the close proximity of the MHPA to the proposed new fireworks display events, the proposed project's potential to result in indirect impacts on habitat within the City of San Diego MSCP is discussed in the impact analysis below.

City of Chula Vista Multiple Species Conservation Program Subarea Plan

The City of Chula Vista MSCP Subarea Plan was developed in February 2003 pursuant to the general outline developed by USFWS and CDFW to meet the requirements of the California Natural Communities Conservation Planning Act of 1992. The Subarea Plan is also consistent with the County of San Diego MSCP Subregional Plan and qualifies as a Subarea Plan document to implement the MSCP Subregional Preserve within the City of Chula Vista. The proposed project is not located within the City of Chula Vista MSCP Subarea Plan; however, due to the close proximity of the MSCP Preserve to the proposed new fireworks display events, the proposed project's potential to result in indirect impacts on habitat within the City of Chula Vista MSCP is discussed in the impact analysis below.

4.3.4 Project Impact Analysis

4.3.4.1 Methodology

The analysis below makes use of existing data sources discussed above for San Diego Bay and the Imperial Beach Oceanfront. In addition, focused field investigations that address the potential impacts of fireworks display events on marine mammals were conducted during the 2015 and 2016 Big Bay Boom (Appendix F). Furthermore, prior observations of the California least tern response to existing fireworks display events in San Diego Bay were used as a reference source for assessment of potential effects of the proposed new fireworks display events on this species. Finally, a literature review was completed with a focus on the effects of fireworks display events on coastal areas outside of the San Diego region, and the effects of pyrotechnics and loud sounds, in general, on marine resources.

Impacts on habitats and wildlife can be measured as direct and/or indirect. Direct impacts are those that have a direct impact on habitats or wildlife and occur contemporaneously with the action. Direct impacts of fireworks display events on wildlife have previously been defined by the fireworks analysis for the Monterey Bay National Marine Sanctuary (NMFS and MBNMS 2002) as immediate physical and physiological impacts such as abrupt changes in behavior, flight response, diving, evading, flushing, cessation of feeding, and physical impairment or mortality of wildlife. For the proposed project, direct impacts on wildlife and habitats can result from sound waves, light, and debris produced by the proposed new fireworks display events. These effects are evident at the time of or shortly after detonation of the fireworks display events. Debris produced by the proposed new fireworks display events also has a potential to result in direct effects on wildlife and habitats by littering and contaminating the surrounding environment. Finally, if chemical residue from detonated fireworks adversely affects water quality and sediment, it may directly affect habitats and wildlife. The direct chemical effects of the proposed new fireworks display events on water quality are analyzed in Section 4.6, *Hydrology and Water Quality*; however, the effects of water quality on habitats and species are analyzed below. The extent and direction of the direct impacts are dependent on the size and type of aerial fireworks shell being used, wind direction, relative humidity, cloud cover, temperature, and topography of the surrounding landscape.

Indirect impacts are effects that are caused by or will result from the proposed project at a later time, but are still reasonably certain to occur. For the proposed project, indirect impacts on habitats and wildlife can result from increased boat traffic, increased foot traffic in or adjacent to sensitive areas and wetlands, and human-generated debris associated with the public viewing fireworks display events.

4.3.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of impacts associated with biological resources resulting from the implementation of the proposed project. The determination of whether a biological resource impact would be significant is based on the professional judgment of the District as Lead Agency supported by the recommendations of qualified personnel at ICF and Merkel and Associates, all of which is based wholly on the substantial evidence in the administrative record.

Impacts are considered significant if the project would result in any of the following:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and USFWS.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW, NMFS, or USFWS.
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
5. Conflict with any applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

4.3.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and USFWS.

Impact Discussion

The primary direct impacts from fireworks display events on wildlife could include disturbance or alteration of behavior due to sound waves, light, or fireworks-generated debris. If chemical residue from fireworks adversely affects water quality, chemical residues introduced into the water from fireworks may also directly affect wildlife. The primary indirect impacts on wildlife could include disturbance or alteration of behavior due to increased boat traffic or human-generated trash and debris, including encroachment into sensitive nesting areas.

Marine Reptiles

San Diego Bay supports a small number of green sea turtles. A satellite tagging study of green sea turtles in San Diego Bay has been ongoing since 2008. Results indicate that habitat usage has shifted since the closure of the South Bay Power Plant. Turtles tagged and tracked before the closure of the power plant were most commonly found seasonally in the warm waters of the South Bay Power Plant cooling water discharge channel, on the south side of the Chula Vista Wildlife Reserve (Bredvik et al. 2015; Graham and Saunders 2014). In the years following closure of the power plant, tracking results indicate that the turtle activities may have shifted to the northern side of the Chula Vista Wildlife Reserve (the old cooling water intake), as well as more northerly areas in south San Diego Bay. Occasional observations from northern San Diego Bay and in nearshore coastal waters outside of the Bay have also been made as individuals travel north to exit and re-enter the Bay. Despite the change in home range and the increase in observations in the central and northern portions of the Bay, the resident population of green sea turtles remains predominantly in the far southern end of

San Diego Bay. Tracking data from 2016 indicate that the turtles' home range is south San Diego Bay, where they spend 95 percent of their time (District 2016). Therefore, the following discussion focuses on the population of green sea turtles known to occur in San Diego Bay.

Direct Impacts

Proposed New Fireworks Display Events

As described above, the majority of turtles in San Diego Bay occur in the southern end of the Bay. There are no fireworks display events that currently occur in south San Diego Bay. The proposed new fireworks display events would include up to three fireworks display events along the Chula Vista Bayfront, as allowed by the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July fireworks display event along the National City Bayfront. Direct impacts on green sea turtles from the proposed new fireworks display events could include disturbance or alteration of behavior due to sound waves, light, or debris. Also, the introduction of fireworks-generated trash and debris could cause injury to turtles because the green sea turtles may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation.

Merkel & Associates, Inc. (Appendix F) found no peer-reviewed literature that evaluates the direct response of marine reptiles to commercial fireworks display events. However, Zhang (2002) found that sound pressures in the range produced by fireworks generally decouple at the air-water interface. This suggests that increased noise from fireworks display events would minimally affect turtles in the water as the sound dissipates through water. Additionally, increased light levels would only be apparent to turtles surfacing to breathe at the time of the fireworks detonation. Based on the small number of proposed new fireworks display events in the southern portion of the Bay where green sea turtles are known to congregate, a decoupling of aerial detonation sound and light, limited number of turtles, and the limited time turtles spend above the surface of the water, direct impacts on green sea turtles due to sound waves and light would be less than significant.

Fireworks-generated trash and debris could cause injury to green sea turtles because the turtles may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. This is a potentially significant impact (**Impact-BIO-1**). Mitigation measure **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts associated with fireworks-generated trash and debris. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of best management practices, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Implementation of **MM-BIO-1** would ensure that fireworks-generated trash and debris are collected and disposed of and that the use of non-biodegradable fireworks components is limited, which would reduce this potential direct impact on green sea turtles to a less-than-significant level.

Other potential direct impacts on marine reptiles may occur if chemical residues that might fall into surface waters adversely affect water quality during and after the fireworks display events. These chemicals and metals, when present in large enough concentrations, have potential to accumulate in sediments, leach into groundwater, and negatively affect the health of humans and other organisms (Appendix F). However, results of water quality testing following the Big Bay Boom, as well as the

more extensive and long-term SeaWorld fireworks display events, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Perchlorate is the only chemical of concern that has consistently been measured in post-fireworks display event water quality testing. Perchlorate, used as an oxidizer in propellants for fireworks, is recognized as an environmental contaminant that can harm fish and humans. Concentrations of perchlorate found in post-fireworks water quality samples for the Big Bay Boom and SeaWorld fireworks display events have been substantially less than 10 microgram per liter ($\mu\text{g/L}$) (i.e., less than 0.01 milligram per liter [mg/L]) and were generally in the 1–2 $\mu\text{g/L}$ range, which is several orders of magnitude below the 10- to 100- mg/L range found to cause toxicity in fish and aquatic organisms in laboratory studies (Appendix F). Further toxicity testing and benthic community studies completed following SeaWorld fireworks display events indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Appendix F). For these reasons, potential direct impacts on marine reptiles associated with reduced water quality from the proposed new displays would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval that would reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront. The proposed ordinance requires implementation of post-display cleanup practices consistent with the requirements of SDRWQCB's General Permit, removal of fireworks packaging, implementation of best management practices, and a reduction in the amount of non-biodegradable fireworks components that can be used. The proposed ordinance also includes a condition of approval that would require the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan for each fireworks display event consistent with the requirements of SDRWQCB's General Permit. These conditions would require additional clean-up of fireworks-generated trash and debris from existing fireworks display events and that the use of non-biodegradable fireworks components is limited, thereby ensuring that green sea turtles are not injured by mistakenly consuming waste. The proposed ordinance would not result in any other changes to the existing fireworks display events that would adversely affect green sea turtles. Therefore, the effects of the proposed ordinance on existing fireworks display events would not have a substantial adverse direct effect on marine reptiles. No significant adverse impacts would occur.

Indirect Impacts

Proposed New Fireworks Display Events

Marine reptiles in south San Diego Bay may also be indirectly affected by increased boat traffic and human-generated trash entering the marine environment associated with the proposed new fireworks display events. Although the speed limit for vessels south of the Sweetwater Channel is 5 miles per hour, the potential increase in boat traffic, particularly nighttime and out-of-channel traffic, would increase the potential for propeller strikes, which may cause injury to or death of green sea turtles. Increased boating activities could cause the animals to temporarily depart the project area before, during, and after the time of the fireworks display events to avoid higher vessel

traffic. The increase in activity may also affect the turtles' foraging habits in that individuals may spend more time underwater, swim at greater speeds, and alter other life history traits leading to greater energy expenditure. The introduction of human-generated trash could also cause injury to turtles because the turtles may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. These potential indirect impacts on marine reptiles may be significant (**Impact-BIO-2**). During fireworks display events, the Harbor Police Department currently assigns units to major patrol areas and deploys additional units on tidelands including bicycle and vessel units (Brick pers. comm.). The landside patrols provide law enforcement within the landside viewing areas, while the special patrol vessels provide law enforcement on the water. Consistent with its current operational practices, the Harbor Police Department would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events. These existing procedures ensure that boating laws are properly enforced in the Bay. In addition, the proposed ordinance contains several conditions of approval to reduce potential impacts on the biological resources of San Diego Bay. Implementation of **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance for indirect impacts, which include the implementation of cleanup, security, signage and education measures. Implementation of **MM-BIO-2** would ensure that significant indirect impacts on green sea turtles from increased boat traffic and human-generated trash and debris would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval to reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront, including the implementation of cleanup, security, and education measures. Compliance with the proposed ordinance would improve the existing condition by ensuring that boat traffic and human-generated trash during existing fireworks display events would not have any indirect effects on marine reptiles. Therefore, the effects of the proposed ordinance on existing fireworks display events would not have a substantial adverse indirect effect on marine reptiles. No significant adverse impacts would occur.

Birds

Several studies have observed the behavioral changes of sensitive avian species during fireworks display events. A literature review of these existing studies and research was conducted, with the results summarized below. Four avian species that are federally or state-listed as endangered or threatened by USFWS and/or CDFW have a high potential to occur within and adjacent to San Diego Bay. These include California least tern, western snowy plover, light-footed Ridgway's rail, and Belding's Savannah sparrow. The nesting sites of these four species are within audible and visual range of the proposed new fireworks display events and have the potential to be affected. Nesting areas for listed species are illustrated in Figure 4.3-2. Other avian species that are potentially affected include California brown pelican and double-crested cormorant, as these species nest and/or roost in the Bay. Several additional species of terns and black skimmer nest at sites that also support California least tern. As such, these species may be similarly affected by the proposed new fireworks display events.

A review of relevant literature shows that several studies have observed the behavioral changes of sensitive avian species during existing fireworks display events. The impact analysis below relies on

the results of the existing studies to draw conclusions of the potential effects on avian species from the proposed new fireworks display events along the National City and Chula Vista Bayfronts.

Direct Impacts

Proposed New Fireworks Display Events

Direct impacts on sensitive avian species within the project area could include disturbance or alteration of behavior due to sound and light from fireworks display events. The flash and noise from the proposed new fireworks display events are expected to generate a physiologic response of stress within birds. This response would be particularly notable in birds that are night roosting (e.g., California least terns, and to a lesser extent western snowy plovers), as the normal physiological state of birds at rest is low anxiety. For nest-tending or roosting birds, especially at night, stress and alarm levels could be heightened by unanticipated noise and light displays. This stress can result in increased vocalizations, shifting on nests, and movement off nests, including running or flight, and larger-scale colony alarm. Additionally, the introduction of fireworks-generated trash and debris could cause injury to sensitive avian species because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Sensitive bird species within San Diego Bay and along the Silver Strand could be affected by the proposed new fireworks display events in the Bay along the National City Bayfront and Chula Vista Bayfront.

Due to only a small quantity of published research on the effects of fireworks display events directly relating to California least tern and other sensitive avian species present within the Bay, the literature review was expanded to include potential effects of fireworks display events on marine bird and shorebird species in general.

Within San Diego Bay, an unpublished report produced by the San Diego Zoo's Institute for Conservation Research studied the California least tern population at NAB Coronado both before (July 3, 2014) and during the Fireworks Show Over Glorietta Bay on July 4, 2014 (Boylan and Nordstrom 2014). The study looked at sections of two colonies (one closest to and one farthest from the fireworks display event) on July 3 and 4, 2014. The colony at Delta Beach North was located approximately 1 mile from the detonation site, and the colony at the southern portion of the NAB Coronado was located approximately 3 miles from the detonation site. An analysis of flying and calling behavior and routine monitoring data did not identify any adverse effects on the terns from the Fireworks Show Over Glorietta Bay. The study did find, however, that the indirect effects of the Fourth of July activities, such as vehicular activities, foot traffic, and illegal fireworks on the nearby Silver Strand State Beach, caused the majority of the disturbance.

A similar result was reported by Robert Patton, a consulting biologist with the San Diego Zoological Society, as a result of monitoring commissioned in 2009 by the District and San Diego Regional Airport Authority over several recent large-scale fireworks display events, such as the Big Bay Boom. The monitoring was started due to concerns raised by USFWS and CDFW. Informal emails from Mr. Patton (dated 2009 through 2011) detail a notable response to disturbances from fireworks display event noise and light by a habituated California least tern colony at San Diego International Airport. Mr. Patton noted over several years of monitoring that, during the Big Bay Boom fireworks display, roosting terns shifted to higher activity levels in response to the fireworks display events. Some terns initiated running or flying in response to fireworks display events, while birds also increased alarm call vocalizations. However, during each monitoring year, the majority of the flock (≥ 75 percent of total birds) remained in place for the duration of the fireworks display event and the remainder returned and settled within 30 to 60 minutes of completion of the display.

Mr. Patton indicated that fireworks display events could pose a threat, particularly for disturbed chicks and fledglings that could run into roadways or traffic. However, Mr. Patton specified that there is “no observed clear evidence of lasting negative effects [of fireworks display events].” Finally, Mr. Patton indicated that the habituation of the San Diego International Airport least tern colony to loud noises from aircraft make applicability of monitoring results across colonies difficult, and that “colonies elsewhere with less habituation to noises would be expected to react more than those at the airport.” Neither study completed in San Diego Bay detected a direct link of fireworks display events to mortality of adults or chicks or to a decrease in productivity of nesting pairs.

Additional studies have been conducted outside San Diego Bay. A document produced by USFWS titled *Guidelines for Managing Fireworks in the Vicinity of Piping Plovers at Sea Beach Amaranth on the U.S. Atlantic Coast* (1997) states that there have been several situations where fireworks discharged on the beach close to the nesting least terns (*Sterna antillarum*) caused the birds to abandon nests. An August 1993 fireworks display event in New Jersey caused permanent abandonment of a least tern colony approximately 0.15 mile away, and a 1994 New Jersey fireworks display event caused temporary abandonment and displays of distress by terns within a colony approximately 0.75 mile away. These studies, while cited by USFWS, are unpublished and information regarding the size and duration of the fireworks displays and the proximity of displays to nesting colonies is not available. As a result, correlations cannot be drawn between New Jersey and San Diego Bay fireworks display events.

Another study by the Bureau of Land Management, CDFW, USFWS, and NMFS (Weigand and McChesney 2008) focused on populations of breeding seabirds on Gualala Point Island, Sonoma County, California. The study focused on Brandt’s cormorant (*Phalacrocorax penicillatus*) and examined potential responses and effects on reproductive success from a July 6 fireworks display event. Observations documented a visible response by nesting seabirds on Gualala Point Island, located approximately 1.1 miles from the fireworks detonation site. Surveys during the fireworks display event showed that Brandt’s cormorants quickly changed from resting to erect postures at the first fireworks, followed by birds moving about or departing from the island. Western gulls in the study area also flushed, circled, and called during the fireworks display event. During the study period, 90 Brandt’s cormorant nests were documented on Gualala Point Island. Of these, seven nests (35 percent of nest failures) were abandoned in the 2 days between July 5 and July 7, and another seven nests were abandoned between July 7 and July 12. These losses contrasted with the abandonment of only six nests (30 percent of nest failures) for the 30-day period from June 5 to July 5. Two of the nine nests monitored from the adjacent mainland were abandoned between July 6 and July 8. The high rate of Brandt’s cormorant nest abandonment between July 5 and July 7, and possibly nest abandonment from July 7 to July 12, were reported to likely be the result of fireworks disturbance. However, the Gualala seabirds that were studied roost and nest in an offshore island that does not receive the same level of ongoing human disturbance as the San Diego Bay and Silver Strand populations of sensitive avian species.

Finally, a study by Shamoun-Baranes et al. (2011) in the Netherlands used weather radar to study the flight response of birds during New Year’s Eve fireworks display events. The study observed hot spots of activity over lakes, wetlands, and river floodplains. Flight altitudes increased rapidly during the first 15 to 20 minutes after the beginning of the fireworks display event (at midnight), and then slowly decreased, with the main disturbance period lasting about 45 minutes. The study did not identify the size and duration of fireworks displays, and did not quantify the distances of nature reserves and lakes (where waterfowl concentrate) from fireworks displays. Rather, the study focused on a broad area near DeBilt, Netherlands, which is adjacent to multiple Natura 2000

designated lakes and wetlands. The study also noted that fireworks are available for consumer purchase in the Netherlands around New Year's Eve, and may be legally lit for a small period of time between December 31 and January 1 each year, with the largest concentration lit at midnight on New Year's Eve. Therefore, it can be assumed that the fireworks included both large public displays as well as abundant small-scale personal displays deployed over a small time period. The study did not expect fireworks display events to be directly lethal to birds; however, confounding factors, such as disorientation or flying in inclement weather, could potentially result in harm.

Monitoring studies completed at California least tern nesting colonies in San Diego Bay note some limited response of California least terns to noise and light from existing fireworks display events; however, these studies indicate that the majority of birds in the colonies remain in place or return shortly after the fireworks display events. No incidence of death or injury of birds has been reported during any of the monitoring studies completed. The evidence presented from studies within the Bay, the urbanized setting of nesting colonies and roosting locations within the Bay, and the distance of these sites from the existing fireworks display events indicate that sensitive and non-sensitive avian species experience a moderate level of temporary disturbance from noise and light associated with fireworks display events.

Based on results from these multiple studies and surveys, it is apparent that seabirds and shorebirds show some direct physiological stress response, such as increased vocalizations, change in body position, running, and flushing, to the loud noises and increased light associated with fireworks display events. The studies indicated that the response is likely greater for birds that are not habituated to human noise and disturbance. As such, it can be assumed that the close proximity of nesting and roosting sensitive birds to urban locations in San Diego Bay and along the Silver Strand (that include a commercial airport and multiple naval facilities) likely habituates them to higher levels of noise and light patterns. None of the studies indicated direct mortality of birds or a decrease in productivity associated with fireworks display events, and no study indicated long-term changes in behavior (e.g., colony abandonment) related to fireworks display events.

The San Diego Bay and/or Silver Strand nesting and roosting locations for sensitive avian species, including California least tern, western snowy plover, California brown pelican, double-crested cormorant, Caspian and elegant terns, and black skimmers in San Diego Bay and along the Silver Strand adjacent to the Imperial Beach Oceanfront, are in moderately to highly urbanized settings. The proposed new fireworks display events along the National City and Chula Vista Bayfronts would occur approximately 1 mile from California least tern and western snowy plover nesting colonies. Additionally, the proposed new fireworks display events would occur approximately 1.5 miles from other nesting sites in south San Diego Bay at the South Bay Salt Works (which support double-crested cormorant and multiple other tern species) and adjacent coastal salt marshes (which support Belding's Savannah sparrow and light-footed Ridgway's rail, as well as multiple sensitive raptor species). The proposed new Fourth of July fireworks display events would occur during the avian breeding season, while the smaller two proposed new non-Fourth of July fireworks display events would occur during periods when these avian species are not nesting and the California least terns are not present in the region (mid-September through March).

The ESA defines the term *harm* to include "any act which actually kills or injures fish or wildlife," and emphasizes that "such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife." *Harassment* is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not

limited to, breeding, feeding, or sheltering” (50 CFR 17.3). Under these definitions, it does not appear that the levels of disturbance or stress generated from the fireworks display events translate to a level of harm or harassment for avian species. There is no evidence from the studies completed to date that fireworks displays harm or harass sensitive avian species (e.g., they are unlikely to result in direct mortality of birds, a decrease in productivity, or long-term changes in behavior such as colony abandonment), and, therefore, it does not appear that the proposed new fireworks display events along the National City and Chula Vista Bayfronts would result in take of federally listed avian species as defined in the ESA.

While it does not appear that fireworks display events result in harm or harassment to sensitive avian species as defined under the ESA, the results from studies and surveys do indicate these species experience temporary disturbance from fireworks. Disturbance exists when a stimulus induces physiologic stress or behavioral response in an organism. In particular, disturbance may affect nesting or roosting birds in response to both noise and light stressors. As described in Section 4.3.4.2, *Thresholds of Significance*, biological resources impacts would be considered significant if the proposed project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, including sensitive avian species. Based on the information presented above, the proposed new fireworks display events may result in short-term and infrequent changes in behavior in sensitive avian species as a result of disturbance from fireworks. However, the proposed new fireworks display events are not anticipated to result in any long-term or permanent substantial adverse effects on avian species because temporary disturbance from noise and light would be short term and infrequent and would not result in direct mortality of birds, a decrease in productivity, or long-term changes in behavior (e.g., colony abandonment). As such, any temporary disturbance would not be considered a substantial adverse effect on a sensitive species. Therefore, impacts would be less than significant.

In addition, the proposed ordinance includes a noise and light reduction requirements for fireworks display events that would occur during the breeding season, which would further reduce the temporary disturbance experienced by avian species. Furthermore, in accordance with the Chula Vista Bayfront Settlement Agreement and Natural Resources Management Plan (May 2016), Fourth of July fireworks display events that would occur within the Chula Vista Bayfront area during the least tern nesting season are required to monitor the nesting colonies and be in full regulatory compliance with all applicable water quality and species protection regulations. This further supports the conclusion above that, with the implementation of the specific noise and light reduction requirements included in the proposed ordinance, temporary disturbances to avian species would be less than significant.

Additionally, the introduction of fireworks-generated trash and debris is also considered a potential direct impact of fireworks display events. Direct impacts on avian species from fireworks-generated trash and debris that enter the water may be significant because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation (**Impact-BIO-3**). Mitigation measure **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts associated with fireworks-generated trash and debris. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of best management practices, and compliance with SDRWQCB’s General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a

comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Implementation of **MM-BIO-1** would ensure that fireworks-generated trash and debris are collected and disposed of and that the use of non-biodegradable fireworks components is limited, which would reduce this potential direct impact on avian species to a less-than-significant level.

Other potential direct impacts on birds may occur if chemical residues that might fall into surface waters adversely affect water quality during and after the fireworks display events. These chemicals and metals, when present in large enough concentrations, have potential to accumulate in sediments, leach into groundwater, and negatively affect the health of humans and other organisms (Appendix F). However, results of water quality testing following the Big Bay Boom, as well as the more extensive and long-term SeaWorld fireworks display events, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Concentrations of perchlorate found in post-fireworks water quality samples for the Big Bay Boom and SeaWorld fireworks display events have been substantially less than 10 µg/L (i.e., less than 0.01 mg/L) and were generally in the 1-2 µg/L range, which is several orders of magnitude below the 10- to 100-mg/L range found to cause toxicity in fish and aquatic organisms in laboratory studies (Appendix F). Further toxicity testing and benthic community studies completed following SeaWorld fireworks displays indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Appendix F). For these reasons, as well as the fact that birds spend less time in the water as compared to fish and other aquatic organisms, potential direct impacts on birds associated with reduced water quality from the proposed new displays would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval to reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront. The proposed ordinance requires implementation of post-display cleanup practices consistent with the requirements of SDRWQCB's General Permit, removal of fireworks packaging, implementation of best management practices, and a reduction in the amount of non-biodegradable fireworks components that can be used. The proposed ordinance also includes a condition of approval that would require the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan for each fireworks display event consistent with the requirements of SDRWQCB's General Permit. These conditions would require additional cleanup of fireworks-generated trash and debris from existing fireworks display events and that the use of non-biodegradable fireworks components is limited, thereby ensuring that avian species are not injured by mistakenly consuming waste. Additionally, the proposed ordinance includes a number of noise and light reduction requirements for fireworks display events, including existing displays that would occur during the breeding season. Compliance with the proposed ordinance would improve the existing condition by minimizing the disturbance experienced by avian species during existing fireworks display events and ensuring that noise and light from existing displays would not have any substantial adverse direct effects on avian species within San Diego Bay and the Imperial Beach Oceanfront. Therefore, the effects of the proposed ordinance on existing fireworks display events would not result in a direct significant adverse impact on avian species. No significant adverse impacts would occur.

Indirect Impacts

Proposed New Fireworks Display Events

Indirect impacts on sensitive avian species can include disturbance associated with increased boat and foot traffic in the vicinity of nesting and roosting locations, as well as human-generated trash. Fireworks spectators may trespass onto closed avian nest sites or roosting areas in order to obtain private viewing locations. This presently occurs at a low level during intensive Bay use periods such as summer holidays and weekends. However, under typical evenings, the trespass onto colony nesting sites by the public is low, particularly at night. During the proposed new fireworks display events, however, the likelihood of trespass would increase.

The study on NAB Coronado (Boylan and Nordstrom 2014) suggests that increased boat and foot traffic, trespass, and human-generated trash and debris during fireworks display events were possibly a greater threat to sensitive avian species than those associated with temporary noise and light disturbances from the fireworks themselves. Boylan and Nordstrom noted that illegal fireworks ignited immediately adjacent to nesting colonies, as well as increased foot traffic on sand dunes and beaches, caused the majority of disturbance to nesting California least tern during and immediately after fireworks display events. Additional indirect impacts could include increased trash associated with human use and noise associated with boating activity adjacent to nesting sites. The introduction of human-generated trash could also cause injury to sensitive birds because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. While many nesting sites for California least tern and western snowy plover in and around San Diego Bay are behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of nesting and roosting areas may be significant (**Impact-BIO-4**). During fireworks display events, the Harbor Police Department currently assigns units to major patrol areas and deploys additional units on tidelands including bicycle and vessel units (Brick pers. comm.). The landside patrols provide law enforcement within the landside viewing areas, while the special patrol vessels provide law enforcement on the water. Consistent with its current operational practices, the Harbor Police Department would continue to deploy special patrol vessels and conduct in-water law enforcement during fireworks display events. These existing procedures ensure that boating laws are properly enforced in the Bay. In addition, the proposed ordinance contains several requirements that would reduce potential impacts on the biological resources of San Diego Bay. Implementation of **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance for indirect impacts, which include the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-2** would reduce potentially significant indirect impacts on avian species from human trespass, increased boat traffic, and human-generated trash and debris to less-than-significant levels.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval to reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront, including the implementation of cleanup, security, signage, and education measures. Compliance with the proposed ordinance would improve the existing condition by reducing the indirect effects of trespass, increased boat traffic, and

human-generated trash on avian species during existing fireworks display events. Therefore, the effects of the proposed ordinance on existing fireworks display events would not result in any indirect significant adverse impacts on avian species. No significant adverse impacts would occur.

Marine Mammals

As with avian species, several studies have been completed to observe the potential for behavioral changes of marine mammals during fireworks display events. The impact analysis below relies on the results of the literature review of existing studies and surveys to draw conclusions regarding the potential effects on marine mammals from the proposed new fireworks display events along the National City and Chula Vista Bayfronts.

Direct Impacts

Proposed New Fireworks Display Events

Pacific harbor seals and California sea lions are very likely to occur within San Diego Bay. Neither species breeds within San Diego Bay, but both spend time foraging and loafing in the waters of the Bay. They are most common in the northern portion of the Bay, substantially decreasing in occurrence in the south Bay region where large schools of pelagic fish and opportunistic foraging and haul-out locations are reduced. California sea lions are rarely observed in the south Bay region. Similarly, while harbor seals occasionally haul out and loaf on intertidal rip rap, they prefer to haul out on protected sandy and rocky beaches, and no large haul-out areas for this species occur in San Diego Bay. This species is rarely observed in the south Bay region. Furthermore, several species of cetaceans, such as whales and dolphins, have low potential to occur in northern San Diego Bay, but have little likelihood of occurring in the south Bay in the vicinity of the proposed new fireworks display events along the National City and Chula Vista Bayfronts.

There are a number of reports that detail the responses of Californian sea lions and harbor seals to fireworks display events, and some peer-reviewed literature that describes the effects of non-pyrotechnic sources of sound and light on marine mammals. In order to provide a comprehensive review of this issue, a literature search was expanded to include non-pyrotechnic noise and light sources.

An observational study was performed before, during, and after the Big Bay Boom fireworks display event on July 4, 2015, to evaluate the behavior of hauled-out sea lions in response to the fireworks display event. The investigation was performed at the San Diego Bay Bait Barge in north San Diego Bay offshore of the Point Loma Naval installation, approximately 1.6 miles from the closest fireworks barge. Results indicated that sea lions experienced a moderate level of disturbance in response to the noise and light of the Big Bay Boom. This disturbance was indicated by increased vocalizations, head lifting, shifting position, and, in some cases, departing from the bait barge to adjacent waters. However, the study noted that this response was less than or commensurate to the response of the sea lions to ordinary boat traffic and people walking on the bait barge, and much less than intraspecific harassment of subordinate animals by large bull sea lions. A large percentage of vocalizations was due to aggressive bull sea lions challenging each other noisily, and several animals were observed diving into the water in response to challenges from large bulls. Disturbance associated with the 2015 Big Bay Boom was most noticeable following the initial detonations of fireworks; however, sea lions remaining on the bait barge settled into resting position for the duration of the fireworks display event. While focused studies have not been completed at other sites within the Bay, it is likely that fireworks display events that are generally shorter in duration

and/or are farther from marine mammal haul-out areas result in a smaller and less apparent disturbance response in marine mammals.

On July 4, 2016, another observational marine mammal monitoring study was conducted before, during, and after the existing Big Bay Boom fireworks display event. Similar to the 2015 Big Bay Boom observational study, the California sea lion response to the 2016 existing Big Bay Boom event was monitored. The 2016 monitoring also occurred at the San Diego Bay Bait Barge in north San Diego Bay. During the 2016 monitoring, California sea lions were constantly alerted by the public from boats approaching close to and stopping by the resting California sea lions, people in boats yelling at the sea lions, and aircraft flying in the vicinity. In the minute prior to the beginning of the survey, a fishing vessel docked at the northern end of the eastern bait barge to watch the Big Bay Boom fireworks. As they tied up to the dock, they yelled, raised their arms, and lunged at the 17 California sea lions that were hauled out and resting. This caused all 17 of the California sea lions to alert and flush into the water. No California sea lions returned to this location during the study. Disturbances to California sea lions from the Big Bay Boom fireworks caused all California sea lions within the study area to immediately alert and flush into the water. California sea lions did not return to the study area for the remainder of the observation period (40 minutes after the fireworks). It was also noted that all the California sea lions flushed from the west barge (outside of the study), as well. In contrast to the east bait barge, a small number of California sea lions (seven) returned to the northern end of that bait receiver approximately 10 minutes after the fireworks display ended. In contrast to the 2016 Big Bay Boom, the 2015 study for the Big Bay Boom fireworks display reported the majority of California sea lions remaining on the bait barge (Merkel & Associates 2015). Additionally, the 2015 study used vocalizations as an indicator for disturbance to California sea lions. This indicator was not used in the 2016 study because prior to the fireworks display the two study groups of California sea lions were sleeping or resting with only a few vocalizations recorded from only two adult males when shifting their resting position. The inconsistent response of California sea lions to the existing Big Bay Boom fireworks display at the bait barge from 2015 and 2016 indicates a variability in tolerance levels of disturbance from fireworks by California sea lions. Despite continuous disturbances to California sea lions at the bait barges—including natural, public, daily bait barge operations, and annual fireworks display events—California sea lions continue to return to and haul out in large numbers at the bait barges, including since the inception of the Big Bay Boom fireworks display in 2001.

It should be noted that the marine mammal observational studies at the San Diego Bay Bait Barge focused on animals in a very urban setting. The San Diego Bay Bait Barge is in an area of the Bay that receives a high level of boating and human activity. Recreational boats of all sizes regularly tie up at the bait barge and people walk along the bait barge to purchase bait and to fish. As such, the sea lion population at the bait barge is accustomed to human presence and noises from boat engines and people. While the recent studies did not involve long-term monitoring of the sea lion haul-out at the bait barge, they do provide a good insight into the response of the local population of sea lions to fireworks display events. Other smaller haul-out areas occur on channel marker buoys and Zuniga Jetty, with a few small intermittent haul-outs also being within marina environments. No established haul-out areas are located in south San Diego Bay, and sea lions have a very low likelihood of occurrence in the vicinity of the proposed Chula Vista and National City Bayfront fireworks displays.

Results from the San Diego Bay studies are comparable to those of other studies including ongoing work in the Monterey Bay National Marine Sanctuary (MBNMS). In Monterey, the fireworks are detonated from a barge approximately 0.5 mile from the breakwater, where birds and marine mammals regularly haul out and/or rest. The barge in Monterey Bay is nearly 1 mile closer to

marine mammals than the bait barge observed in San Diego Bay during the Big Bay Boom event. Studies completed within the MBNMS (NMFS and MBNMS 2002) and the subsequent Environmental Assessment and proposed federal ruling (NMFS and MBNMS 2006; NMFS 2012) indicate that disturbance resulting from fireworks display events would be, at most, short-term flushing and evacuation of non-breeding haul-out sites by California sea lions and harbor seals in Monterey Bay. In the nearly two decades of observing sea lions at the City of Monterey's Fourth of July celebration, the following general observations were made: (1) sea lions become quiet and watchful as soon as fireworks commence; (2) juveniles begin leaving the breakwater as soon as the fireworks begin; (3) large bulls and the remaining adults depart to the water after an aerial salute or quick succession of loud effects; (4) individuals usually begin to return to the breakwater haul-out within a few hours of the end of the fireworks display event; and (5) sea lions are present on the breakwater at pre-fireworks display event numbers by the following morning (NMFS 2012). None of the studies within the MBNMS that directly observed California sea lions and/or harbor seals during fireworks display events found substantial long-term effects on these marine mammals. Studies at Vandenberg Air Force Base similarly indicate that the percentage of seals leaving the haul-out increases with noise levels up to approximately 100 A-weighted decibels (dBA), after which almost all seals enter the water; however, during many launches, marine mammals are not disturbed (U.S. Air Force 2013). Noise in the Vandenberg Air Force Base studies was generated from missile launches and not fireworks.

Studies completed in other marine areas have been inconclusive. Weigand and McChesney (2008) studied the effects of fireworks display events on harbor seals on Gualala Island, Sonoma County, California. The study did not find conclusive evidence of the effects of fireworks display events on the seals. Low-tide census counts were completed once per day during a 12-day study period. The study found that, in general, counts declined through the study period, with the lowest count found on the day of the fireworks display event. Furthermore, just before the Gualala fireworks display event began and while the island was still visible, observers did not locate any harbor seals from either vantage point on Gualala Point Island. Therefore, a link between a decline in numbers over the study period and the fireworks display event was not determined.

Recently, NMFS ruled on a request for an incidental harassment authorization from the St. George Reef Lighthouse Preservation Society (NMFS 2015). The Society proposes to conduct aircraft operations, lighthouse renovation, and light maintenance activities on the St. George Reef Light Station on Northwest Seal Rock off the coast of Northern California in the Pacific Ocean. The station currently supports populations of marine mammals including California sea lion and Pacific harbor seal, among other species. NMFS ruled that small evidence of disturbance to marine mammals, including alertness, head turning, or movement of less than 1 meter, in response to noise and activity was not considered to be harassment. Rather, NMFS ruled that only pinnipeds that move greater than 1 meter (3.3 feet) or change the speed or direction of their movement in response to the presence of humans or human-related noise and activity are considered behaviorally harassed.

In addition to direct behavioral disturbance, there has been concern that loud noises (such as from explosive detonations) could affect the physiology (e.g., hearing) of marine mammals (Weilgart 2007, 2011). A study published by Koper and Plön (2012) suggested high-intensity underwater sound can affect marine mammals by causing stress, perceptual interference, behavioral changes, and chronic responses, and indirect effects on predator species as a consequence of a change in prey distribution or abundance due to direct effects of sound on the prey. However, unlike underwater detonations or pile driving, fireworks display events are aerial. Zhang (2002) modeled the transmission of sound from air to water and found that sound pressures in the range produced by

fireworks display events generally decouple at the air-water interface. Studies completed at Vandenberg Air Force Base indicated no physiological response on the hearing of harbor seals following rocket launches with A-weighted Sound Exposure Levels between 96 and 104 dBA (NMFS 2002). Based on an analysis of existing data, NMFS adopted a conservative estimate of an A-weighted airborne sound intensity level of 128 dBA to elicit physiological damage to marine mammals within the MBNMS. Studies in the MBNMS and the recent studies in San Diego Bay associated with the 2015 Big Bay Boom indicate that the sound level of fireworks display events at haul-outs were in the range between 70 and 85 dBA (Merkel & Associates, Inc. 2015; NMFS 2012). Additional noise monitoring near haul outs in San Diego Bay during the 2016 Big Bay Boom fireworks display indicated 1-minute average (Leq) sound levels ranging from 57 to 76 dBA and maximum (Lmax) levels ranging from 62 to 89 dBA (ICF and MTS 2016). These data suggest that, for the current duration and configuration of the Big Bay Boom, the sounds generated by fireworks display events were not great enough to damage hearing of marine mammals at the habitual haul-out locations in the northern portion of the Bay. Notably, the peak sound levels at the San Diego Bait Barge during the course of monitoring were not generated by the 2015 fireworks display event, but by intraspecific aggression by vocalizing bull sea lions (Merkel & Associates, Inc. 2015). This indicates that noise generated by larger fireworks display events such as the Big Bay Boom does not likely result in long-term or permanent effects on cetaceans or pinnipeds in the water. It is reasonable to extrapolate downward and conclude that smaller scale fireworks display vents would have a lesser effect.

Results from the recent marine mammal study completed in San Diego Bay, along with the body of literature pertaining to the effects of fireworks display events and other loud noises on marine mammals, indicate that marine mammals experience a moderate level of temporary disturbance from noise and light associated with fireworks display events close to marine mammal haul-out areas. Based on the information above, fireworks display events do not appear to result in any long-term or permanent substantial adverse effects on marine mammals because temporary disturbance from noise and light is short term and infrequent and does not result in direct mortality, permanent behavioral changes, or physiological effects. However, as discussed above, this level of disturbance results in temporary disruption of behavioral patterns; nonetheless, in most instances, this disturbance is not considered harassment according to the recent NMFS ruling (NMFS 2015). The level of disturbance is likely to be lower for fireworks display events that are shorter in duration and/or located farther from known marine mammal haul-out areas. There is no evidence that long-term harm comes to disturbed sea lions or seals from such fireworks display events.

Implementation of the proposed new fireworks display events could result in potential direct impacts on marine mammals primarily from fireworks-generated debris, light, and noise. Similar to those for avian species, potential direct impacts on marine mammals could include increased noise and light from the proposed new displays, which could result in elevated stress response. In addition, the introduction of fireworks-generated trash and debris could cause injury to marine mammals because the marine mammals may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. As discussed above, Pacific harbor seals and California sea lions are very likely to occur within San Diego Bay. Neither species breeds within San Diego Bay, but both spend time foraging and loafing in the waters of the Bay. However, as described above, both species are most common in the northern portion of the Bay, substantially decreasing in occurrence in the south Bay region. Additionally, due to the lack of haul-out areas in south San Diego Bay, increased light levels would only be apparent to marine mammals surfacing to breathe at the time of the fireworks detonation, further reducing the likelihood for disturbances to marine mammals.

Furthermore, several species of cetaceans, such as whales and dolphins, have a very low potential to occur in south San Diego Bay, especially in the vicinity of the proposed new fireworks display events along the National City and Chula Vista Bayfronts. Therefore, based on the limited presence of marine mammals and lack of haul-out areas in the southern portion of the Bay, the proposed new fireworks display events are not expected to result in disturbances to these species from increased noise and light associated with the displays. Consequently, the noise and light generated by the proposed new fireworks display events would not result in a significant direct impact on marine mammals.

Additionally, although marine mammals have a low potential to occur in the south Bay, marine mammals, if present, may inadvertently consume fireworks-generated trash and debris that enter the water, which could cause suffocation, starvation, or debilitation. Compared to other marine wildlife, marine mammals are less likely to consume trash and debris. Instead, the majority of injury to marine mammals from trash and debris is from entanglement (in fishing lines, nets, plastic bags, etc.) as marine mammals are curious and explore new items in their environment (Sea Lion Center 2017). Impacts on marine mammals from fireworks-generated trash and debris is unlikely due to low potential for occurrence of these species in the area, the relatively discriminating forage behavior of marine mammals, and the fact that the type of debris produced by fireworks (e.g., cardboard, paper, plastic casings) is not likely to cause entanglement. Therefore, direct impacts on marine mammals from fireworks-generated trash and debris would be less than significant.

Additionally, **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts associated with fireworks-generated trash and debris. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of best management practices, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Implementation of **MM-BIO-1** would further reduce the potential for marine mammals to inadvertently consume fireworks-generated trash and debris.

Other direct potential impacts on marine mammals may occur if chemical residues that might fall into surface waters adversely affect water quality during and after the fireworks display events. These chemicals and metals, when present in large enough concentrations, have the potential to accumulate in sediments, leach into groundwater, and negatively affect the health of humans and other organisms (Appendix F). However, results of water quality testing following the Big Bay Boom, as well as the more extensive and long-term SeaWorld fireworks display events, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Concentrations of perchlorate found in post-fireworks water quality samples for the Big Bay Boom and SeaWorld displays have been substantially less than 10 µg/L (i.e., less than 0.01 mg/L) and were generally in the 1-2 µg/L range, which is several orders of magnitude below the 10- to 100-mg/L range found to cause toxicity in fish and aquatic organisms in laboratory studies (Appendix F). Further toxicity testing and benthic community studies completed following SeaWorld fireworks displays indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Appendix F). For these reasons, potential direct impacts on marine mammals associated with reduced water quality from the proposed new displays would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval that would reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront. The proposed ordinance requires specific packaging materials, best management practices, and implementation of post-display cleanup practices consistent with the requirements of the General Permit, as well as a reduction in the amount of non-biodegradable fireworks components that can be used. These measures would ensure that fireworks-generated trash and debris from existing fireworks display events are collected and disposed of and that the use of non-biodegradable fireworks components is limited, thereby ensuring that marine mammals are not injured by mistakenly consuming waste. Additionally, the proposed ordinance includes a number of noise and light reduction requirements for fireworks display events. Furthermore, the proposed ordinance requires all fireworks organizers to obtain all necessary permits from the appropriate regulatory agencies. Compliance with the proposed ordinance would improve the existing condition by minimizing the disturbance experienced by marine mammals during existing fireworks display events and ensuring that noise and light from existing displays would not have any substantial adverse direct effects on marine mammals within San Diego Bay and the Imperial Beach Oceanfront. Therefore, the effects of the proposed ordinance on existing fireworks display events would not result in a direct significant adverse impact on marine mammals. No significant adverse impacts would occur.

Indirect Impacts

Proposed New Fireworks Display Events

Indirect impacts on marine mammals from proposed new fireworks display events could include disturbance associated with increased boat and foot traffic and increased human-generated trash and debris. A study by Wells and Scott (1997) linked the increase of boating activities over holidays and in particular the Fourth of July weekend to an increase in the number of injuries to marine mammals (dolphins and manatees). While the species in that study differ from those present in San Diego Bay, the proposed new nighttime fireworks display events in San Diego Bay are anticipated to result in an increase in vessel activities on the four nights when the proposed new fireworks display events occur. Consequently, the potential for collisions to occur increases. The Wells and Scott (1997) study did not link injuries directly to fireworks display events, but to increased boat traffic over the summer holiday weekend. Other studies (Janik and Thompson 1996; Mattson et al. 2005; Nowacek et al. 2001) have described pronounced behavioral response of dolphins (increased swimming speed, diving, and evasive maneuvers) to the presence of personal watercraft. None of these studies focused specifically on the effects of increased nighttime boating traffic from fireworks display events; however, the potential increased use of water craft associated with the proposed new fireworks display events is considered a potential indirect effect.

Conversely, observations at the MBNMS found that increased human usage (e.g., boating, kayaking, fishing, diving, swimming, surfing, picnicking, beach combing and tidepooling) of waters adjacent to fireworks display events increased gradually over the hours leading to fireworks display events (NMFS 2012). This human usage occurred in areas of the MBNMS with the highest levels of human activity. Marine mammals in the area were observed to temporarily depart the area during the hours immediately prior to the beginning of the fireworks display event. However, NMFS noted that

boaters traveled slowly and followed boating regulations, and that marine mammals returned to haul-out areas following fireworks display events. No direct observations of disturbance or injury from human activity were noted.

In San Diego Bay, similar to the MBNMS, the proposed new fireworks display events are located in areas of relatively high existing boating and human use associated with recreational, commercial, and military activities. However, after dark, recreational boating activity is much less common and nighttime boating speeds are typically much slower than daytime boating speeds. Boating activity generally increases during holidays and weekends, which consequently results in a higher risk of animal collision that is not associated with fireworks display events.

As discussed above, Pacific harbor seals and California sea lions are most common in the northern portion of the Bay where a majority of the haul-out areas are located, substantially decreasing in occurrence in the south Bay due to the lack of haul-out areas. Additionally, cetaceans such as whales and dolphins have a very low potential to occur in the vicinity of the proposed new fireworks display events. Therefore, based on the limited presence of marine mammals and lack of haul-out areas in the southern portion of the Bay, the proposed new fireworks display events are not expected to result in disturbances to these species from increased boating and human activity. In addition, although marine mammals have a low potential to occur in the south Bay, marine mammals, if present, may mistakenly consume human-generated trash and debris, which could cause suffocation, starvation, or debilitation. This is unlikely due to the low potential for occurrence of these species, the relatively discriminating forage behavior of marine mammals, and the fact that the type of human-generated debris (e.g., bottles, cans, food wrappers) is not likely to cause entanglement. Therefore, the proposed new fireworks display events would not result in a significant indirect impact on marine mammals.

Additionally, **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance for indirect impacts, which include the implementation of cleanup and education measures. Implementation of **MM-BIO-2** would further reduce the potential for the proposed new fireworks display events to result in indirect effects on marine mammals.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval that would reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront, including the implementation of cleanup and education measures. Compliance with the proposed ordinance would improve the existing condition by reducing potential indirect effects on marine mammals associated with increased boating and human activity and increased human-generated trash during existing fireworks display events. Therefore, the effects of the proposed ordinance on existing fireworks display events would not result in a significant adverse indirect impact on marine mammals. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Implementation of the proposed project would have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special-status

species in local or regional plans, policies, or regulations, or by CDFW and USFWS. Potentially significant impact(s) include:

Impact-BIO-1: Potential Direct Impact on Marine Reptiles from Fireworks-Generated Trash and Debris. The introduction of fireworks-generated trash and debris could cause injury to green sea turtles because the turtles may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Direct impacts on green sea turtles from fireworks-generated trash and debris that enter the water may be significant.

Impact-BIO-2: Potential Indirect Impacts on Marine Reptiles from Increased Human and Boating Activity. The increase in boat traffic, particularly nighttime and out-of-channel traffic, would increase the potential for propeller strikes, which may cause injury to or death of green sea turtles. Increased boating activities could cause the animals to temporarily depart the project area before, during, and after the time of the proposed new fireworks display events to avoid higher vessel traffic. The increase in activity may also affect the turtles' foraging habits in that individuals may spend more time underwater, swim at greater speeds, and alter other life history traits leading to greater energy expenditure. The introduction of human-generated trash could also cause injury to turtles if they mistakenly consume the waste, causing suffocation, starvation, or debilitation. These potential indirect impacts on marine reptiles may be significant.

Impact-BIO-3: Potential Direct Impact on Avian Species from Fireworks-Generated Trash and Debris. The introduction of fireworks-generated trash and debris could cause injury to avian species because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Direct impacts on avian species from fireworks-generated trash and debris that enter the water may be significant.

Impact-BIO-4: Potential Indirect Impacts on Special-Status Avian Species from Increased Human and Boating Activity. The proposed new fireworks display events have the potential to result in indirect impacts on special-status avian species, particularly California least tern and western snowy plover, as a result of increased foot traffic on sand dunes and beaches that can cause disturbance to nesting sites during and immediately after the proposed new fireworks display events. Additional indirect impacts potentially include increased trash associated with human use and noise associated with boating activity adjacent to nesting sites. The introduction of human-generated trash could also cause injury to special-status birds because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. While many nesting sites for California least tern and western snowy plover in San Diego Bay are behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts related to increased boat traffic, foot traffic, and human-generated trash and debris in the vicinity of nesting and roosting areas may be significant.

Mitigation Measures

Proposed New Fireworks Display Events

MM-BIO-1: Implementation of Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.

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(d) Fireworks Chemical Composition and Packaging.

2. Packaging.

- A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels from all fireworks to be used in the event.
- B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.

(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:

1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.
2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.
3. Wires from the electric match placed in the fireworks fuse shall be wrapped around nails that are installed on the racks to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event.
4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event.
5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway.
6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. fireworks operators shall photograph the barge prior to and after cleaning.

7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment.
 8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.
 9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.
 10. Within five (5) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.
- (h) Compliance with San Diego Water Board General Permit.
1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.
 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article.
 3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.
- (i) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by

the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.

- (j) **Compliance with Laws:** The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant's failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.

MM-BIO-2: Implementation of Biological Resources–Related Conditions of the Proposed Ordinance for Indirect Impacts. The fireworks organizer and operator are required to comply with the following biological resources–related condition of the proposed ordinance.

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- (e) **Protection of Species and Habitat.** The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:
3. **Security.** For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays.
 4. **Signage.** For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the fireworks organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.
 5. **Education.** Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to reminds viewers of appropriate viewing behavior in and near

sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).

- (f) Best Management Practices. Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:

11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks operator shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Direct impacts on marine reptiles and avian species could occur from the introduction of fireworks-generated trash and debris that may enter the water, which could cause injury to these species because they may mistakenly consume the waste, potentially causing suffocation, starvation, or debilitation (**Impact-BIO-1** and **Impact-BIO-3**). However, **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of best management practices, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Implementation of **MM-BIO-1** would ensure that fireworks-generated trash and debris are collected and disposed of, which would reduce this potential direct impact on green sea turtles and avian species to a less-than-significant level.

Indirect impacts on marine reptiles could occur as a result of increased boat traffic and human-generated trash entering the marine environment (**Impact-BIO-2**). Additionally, indirect impacts on sensitive avian species include disturbance associated with increased human activity in the vicinity of nesting colonies, as well as human-generated trash and debris (**Impact-BIO-4**). However, **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance for indirect impacts, including the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-2** would ensure that significant indirect impacts on green sea turtles and avian species from increased boat traffic, trespass, and human-generated trash and debris would be less than significant.

Furthermore, in accordance with the Chula Vista Bayfront Settlement Agreement and Natural Resources Management Plan (May 2016), proposed new fireworks display events that would occur within the Chula Vista Bayfront area during the least tern nesting season, which would include a Fourth of July event, are required to monitor the nesting colonies and be in full regulatory compliance with all applicable water quality and species protection regulations.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 2: Implementation of the proposed project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW, NMFS, or USFWS.

Threshold 3: Implementation of the proposed project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.

Impact Discussion

The primary direct impacts from the proposed new fireworks display events on habitat of San Diego Bay could include increased trash from discharged shells, including paper and cardboard waste and the remains of fuses, as well as reduced water quality. Additionally, fireworks barges and tugboats that maneuver and hold the barges into place could damage eelgrass. The primary indirect impacts on habitats and wetlands of San Diego Bay could include increased boat traffic, increased foot traffic in sensitive areas, and human-generated debris.

Direct Impacts

Proposed New Fireworks Display Events

Fireworks-Generated Trash and Debris

Fireworks display events can result in a substantial amount of paper, cardboard, and some cotton, metal, and plastic waste. In San Diego Bay, fireworks for the proposed new displays would be launched from barges, and the waste resulting from exploded shells could fall primarily into the waters of the Bay. It is anticipated that some of this debris would sink to the bottom, and a smaller amount would wash onto adjacent shorelines. The exact total volume of trash and debris that would be generated by the proposed new fireworks display events in south San Diego Bay is unknown; however, it is estimated that the net weight of pyrotechnic materials in an aerial fireworks shell (Class B) is typically about half (i.e., 50 percent) the total weight (Appendix F). According to the Water Quality Technical Report prepared for the proposed project (Appendix G), the weight of the debris recovered from the detonation barges combined with the dry weight of the debris collected from the surrounding waters should equal approximately one-half of the total display weight. Therefore, if the total weight of recovered debris is less than this, it can be assumed that this unaccounted portion remains in the water and surrounding habitat.

Furthermore, the fallout area for the aerial debris is determined by local wind conditions. While this area is variable between sites and events, long-term studies performed within the MBNMS indicate that the bulk of the debris will fall to the surface within a 0.5-mile (0.8-kilometer) radius of the launch site (NMFS 2012). NMFS noted that heavier trash, such as cardboard casings, land closer to the launch site, while lighter trash, such as cotton and plastic waste, travel farther propelled by winds. The MBNMS conducted surveys of solid debris on surface waters, beaches, and subtidal habitat and found no visual evidence of acute or chronic impacts on the environment or wildlife (NMFS and MBNMS 2006). However, cleanup activities immediately following fireworks display

events did collect debris in some instances (including cardboard cylinders, disks, and shell case fragments; paper strips and wadding; plastic wadding, disks, and tubes; aluminum foil; cotton string; and even whole unexploded shells) from waters and beaches of Monterey Bay.

The majority of wetlands and sensitive habitats (e.g., eelgrass beds) within San Diego Bay occur in the southern portion of the Bay. The largest of the San Diego Bay wetlands include the Sweetwater River, Otay River, Chula Vista Wildlife Reserve, South San Diego Bay NWR, and Telegraph Creek. Eelgrass coverage varies annually, and represents approximately 10 percent of the habitat within the Bay. Salt marshes occur over approximately 800 acres of the Bay, or approximately 4 percent of the habitat within the Bay (U.S. Navy 2013). The proposed new fireworks display events are anticipated to take place off barges that would be moved to their locations and held in place by a tugboat. Based on the trash generation percentages described above, it can be assumed that approximately 228 pounds of debris would be generated by each of the proposed new Fourth of July fireworks display events and approximately 57 pounds of debris would be generated by each of the proposed new non-Fourth of July fireworks display events, some of which may remain in the water following the display and potentially degrade sensitive habitats or wetlands within the south Bay.

Fireworks-generated trash and debris could degrade sensitive habitats and wetlands. Direct impacts on sensitive habitats and federally protected wetlands of south San Diego Bay from fireworks-generated trash and debris that enter the water may be significant (**Impact-BIO-5**). Mitigation measure **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts associated with fireworks-generated trash and debris. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of best management practices, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Implementation of **MM-BIO-1** would reduce the amount of fireworks-generated trash and debris that enters or remains in the Bay and would limit the use of non-biodegradable fireworks components. Furthermore, the anticipated wide dispersal of any remaining amount of largely cellulose-based trash and debris generated from the proposed new fireworks display events is not anticipated to result in a reduction in the amount or quality of sensitive habitats or wetlands within the Bay. Accordingly, direct impacts on sensitive habitats and federally protected wetlands in San Diego Bay due to fireworks-generated trash and debris would be less than significant with implementation of the conditions of approval contained in the proposed ordinance (**MM-BIO-1**).

Reduced Water Quality

Potential impacts on marine waters, habitats, and wetlands could also occur as a result of chemical residues that might fall into surface waters and affect water quality during and after the fireworks display events. Results of water quality testing following the Big Bay Boom, as well as the more extensive and long-term SeaWorld fireworks display events, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Perchlorate is the only chemical of concern that has consistently been measured in post-fireworks display water quality testing. Perchlorate, used as an oxidizer in propellants for fireworks, is recognized as an environmental contaminant that can harm fish and humans. However, concentrations of perchlorate found in post-fireworks water quality samples for the Big Bay Boom and SeaWorld displays have been substantially less than 10 µg/L (i.e.,

less than 0.01 mg/L) and were generally in the 1-2 µg/L range, which is several orders of magnitude below the 10- to 100-mg/L range found to cause toxicity in laboratory studies (Appendix F). Further toxicity testing and benthic community studies completed following SeaWorld fireworks display events indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Appendix F). For these reasons, direct impacts of reduced water quality on habitats and wetlands of San Diego Bay from the proposed new fireworks display events would be less than significant.

Eelgrass

The subtidal waters of south San Diego Bay are typically shallow (ranging between -2.2 and -12 feet MLLW) (U.S. Navy 2013). An unvegetated moderately deep water channel provides safe navigation from the central portion of the Bay to the Chula Vista Marina. Two westerly branches to the Chula Vista Marina channel also occur; one extends to Emory Cove on the west side of the Bay and the other dead-ends into the shallow subtidal flats of the south Bay. An additional unvegetated channel occurs at the former South Bay Power Plant intake channel. Outside of these channels, the shallow flats of the south Bay support extensive eelgrass beds in very shallow to moderately shallow waters. In addition, eelgrass habitat provides important nursery habitat functions for fish and invertebrates and also provides substrate supporting eggs for various invertebrate species.

The positioning of fireworks barges over the shallow flats could result in direct impacts on eelgrass habitat and its nursery habitat functions, particularly at low tides. Impacts could occur as a result of temporary grounding or settling of barges and tugboats on the bottom at low tide. Additional impacts could occur from propeller wash or propeller drag from tugboats during barge maneuvering. Tugboats have large propellers and high thrust capacity that could dredge up eelgrass in shallow waters, even if grounding does not occur. This could result in temporary and/or permanent losses of eelgrass habitat. The potential for direct impacts on eelgrass is considered to be significant (**Impact-BIO-6**). Mitigation measure **MM-BIO-3** requires implementation of a biological resources-related condition of approval of the proposed ordinance that requires measures to avoid direct eelgrass impacts, as well as to monitor for and mitigate any unanticipated eelgrass impacts that do occur. This condition of approval requires completion of pre- and post-event eelgrass surveys where shallow water eelgrass occurs in areas at or near the fireworks launch sites; conducting tug operator training to ensure that the operators are advised of the eelgrass concern and take prudent steps to minimize risks such as remaining outside of eelgrass areas to the extent practicable; and controlling thrust rate and angle to minimize propeller wash. **MM-BIO-3** would reduce potential direct impacts on sensitive eelgrass habitat to less-than-significant levels.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several requirements that would reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront. The proposed ordinance requires specific packaging materials, best management practices, and implementation of post-display cleanup practices consistent with the requirements of the General Permit, as well as a reduction in the amount of non-biodegradable fireworks components that can be used. These measures would ensure that fireworks-generated trash and debris from existing fireworks display events are collected and disposed of and that the use of non-biodegradable fireworks components is limited. In

addition, the proposed ordinance includes a condition of approval that would require completion of pre- and post-event eelgrass surveys, conducting tug operator training to ensure that the operators are advised of the eelgrass concern, and controlling thrust rate and angle to minimize propeller wash. Therefore, the effects of the proposed ordinance on existing fireworks display events would not result in any direct significant adverse impacts on sensitive habitats or wetlands. No significant adverse impacts would occur.

Indirect Impacts

Proposed New Fireworks Display Events

San Diego Bay is an active military, commercial, and recreational port located in an urban setting. The majority of the shoreline of the Bay is developed. The proposed new fireworks display events could draw a large number of visitors and to the Bay, and the majority of visitors would view fireworks display events from the developed shorelines and parklands along the National City and Chula Vista Bayfronts. The potential increased number of visitors would likely result in increased amounts of human-generated trash and debris from picnics and parties along the shoreline, some of which could wash into adjacent Bay waters.

As mentioned, shallow vegetated habitat (e.g., eelgrass) occurs in the vicinity of the proposed new fireworks display events along the National City and Chula Vista Bayfronts. Increased boat traffic could result in minor damage to eelgrass beds through unauthorized anchoring and/or propeller dragging. The proposed new fireworks display events in south San Diego Bay are not anticipated to occur immediately adjacent to salt marshes; however, visitors that view the fireworks display events from kayaks or personal watercraft could drag watercraft onto shorelines adjacent to coastal salt marshes and inadvertently damage eelgrass or marsh habitat. Additionally, the proposed new fireworks display events could potentially attract crowds to the Silver Strand State Beach, some of whom may trespass into restricted beach areas that are utilized by sensitive avian species. Potential impacts on habitats may include trampling of vegetation and an increase of human-generated trash and litter.

Indirect impacts on habitats of San Diego Bay, including Silver Strand State Beach, from increased human-generated trash and debris, as well as inadvertent damage of sensitive habitats and wetlands (e.g., eelgrass and coastal salt marshes) caused by boat or foot traffic into these areas, may be significant (**Impact-BIO-7**). The proposed ordinance contains several requirements that would reduce potential impacts on the biological resources of San Diego Bay. Implementation of **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance for indirect impacts, which include the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-2** would reduce potentially significant indirect impacts on wetlands and sensitive habitat from human trespass, increased boat traffic, and human generated trash and debris to less-than-significant levels.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval to reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront, including the implementation of cleanup, security, signage, and education measures. Compliance with the proposed ordinance would

improve the existing condition by reducing the potential indirect effects of trespass, increased boat traffic, and human-generated trash and debris during existing fireworks display events on sensitive habitat or wetlands. Therefore, the effects of the proposed ordinance on existing fireworks display events would not result in any significant adverse indirect impacts on sensitive habitats or wetlands. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would have a substantial adverse effect on riparian habitat and/or other sensitive natural communities identified in local or regional plans, policies, or regulations, or by CDFW, NMFS, or USFWS. The proposed new fireworks display events would also have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means. Potentially significant impact(s) include:

Impact-BIO-5: Potential Direct Impact on Sensitive Habitat and Wetlands from Fireworks-Generated Trash and Debris. The waste resulting from exploded fireworks shells could fall primarily into the waters of San Diego Bay. It is anticipated that some of this debris could sink to the bottom, and a smaller amount could wash onto adjacent beaches and shorelines. Direct impacts on sensitive habitats and federally protected wetlands of south San Diego Bay from fireworks-generated trash and debris that enter the water are considered significant.

Impact-BIO-6: Potential Direct Impact on Eelgrass Habitat from Fireworks Barges and Tugboat Activity. The positioning of fireworks barges along the Chula Vista Bayfront over the shallow flats could result in direct impacts on eelgrass habitat and its nursery habitat functions, particularly at low tides. Impacts could occur as a result of temporary grounding or settling of barges and tugboats on the bottom at low tide. Additional impacts could occur from propeller wash or propeller drag from tugboats during barge maneuvering. Tugboats have large propellers and high thrust capacity that could dredge up eelgrass in shallow waters, even if grounding does not occur. Potential direct impacts on eelgrass habitat are considered significant.

Impact-BIO-7: Potential Indirect Impact on Sensitive Habitat and Wetlands from Increased Human and Boating Activity. Increased boat traffic could result in minor damage to eelgrass beds through unauthorized anchoring and/or propeller dragging. Additionally, visitors that view the proposed new fireworks display events from kayaks or personal watercraft could drag these watercraft onto shorelines adjacent to coastal salt marshes and inadvertently damage eelgrass or marsh habitat. The proposed new fireworks display events could attract crowds to the Silver Strand State Beach, some of whom may trespass into restricted beach areas that are utilized by sensitive avian species. Potential impacts on habitats include trampling of vegetation and an increase of human-generated trash and litter. Indirect impacts on sensitive habitat and wetlands of south San Diego Bay would be significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not have a substantial adverse effect on riparian habitat and/or other sensitive natural communities identified in local or regional plans, policies, or regulations, or by CDFW, NMFS, or USFWS. In addition, the

effects of the proposed ordinance on existing fireworks display events would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means. No significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

Implement **MM-BIO-1** and **MM-BIO-2** as described under Threshold 1.

MM-BIO-3: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Eelgrass Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.

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(g) Eelgrass Avoidance and Mitigation. For fireworks display events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.

Level of Significance after Mitigation

Potential direct impacts on marine habitats, sensitive habitats, and wetlands include increased trash from discharged shells, including paper and cardboard waste, and the remains of fuses (**Impact-BIO-5**). In addition, direct impacts on eelgrass could potentially occur as a result of temporary grounding or settling of barges and tugboats on the bottom at low tide, as well as from propeller wash or propeller drag from tugboats during barge maneuvering (**Impact-BIO-6**). Potential indirect impacts on sensitive habitat and wetlands include physical damage, boat traffic, and trash and debris from increased human activity during the proposed new fireworks display events (**Impact-BIO-7**). These potential indirect impacts could occur at eelgrass beds and salt marshes primarily in south San Diego Bay, as well as restricted beach areas that are utilized by sensitive avian species at Silver Strand State Beach. The proposed ordinance contains several conditions of approval that would ensure the protection of the biological resources of San Diego Bay. Mitigation measures **MM-BIO-1** and **MM-BIO-2** require implementation of the biological resources-related conditions of the proposed ordinance, which include cleanup measures, education, signage, and security patrols employed to encourage visitors to remain in designated viewing areas and to employ safe boating procedures. In addition, **MM-BIO-3** requires completion of pre- and post-event eelgrass surveys, conducting tug operator training to ensure that the operators are advised of the eelgrass concern, and controlling thrust rate and angle to minimize propeller wash for potential direct impacts on eelgrass habitat. Implementation of **MM-BIO-1** through **MM-BIO-3** would ensure that significant

direct and indirect impacts on these sensitive habitats would be reduced to less-than-significant levels.

Threshold 4: Implementation of the proposed project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Impact Discussion

Potential physiological and behavioral responses to proposed new fireworks display events by resident and migrating avian, marine mammal, and marine reptile species within the project area are analyzed under Threshold 1 above. The analysis under Threshold 1 focused on impacts on specific wildlife, including marine mammals, marine reptiles, and birds. The following analysis focuses on whether the proposed new fireworks display events would interfere substantially with the movement of native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. In addition, eelgrass habitat provides important nursery habitat functions for fish and invertebrates and also provides substrate supporting eggs for various invertebrate species.

Direct Impacts

Proposed New Fireworks Display Events

San Diego Bay does not provide any terrestrial movement corridors, and no marine mammal, reptile, or fish migratory corridors occur within it. However, the southern portions of the Bay, including the South San Diego Bay Unit of the San Diego Bay NWR, provide stopover habitat for migrating waterfowl and shorebirds. Additionally, the south San Diego Bay also provides nesting habitat for migratory avian species, and green sea turtles swim in and out of the Bay, as well. There are no existing fireworks display events requiring a discretionary action by the District or operated by the District's tenants occurring in south San Diego Bay. The proposed new fireworks display events would be close to sensitive wetland habitats within San Diego Bay that provide stopover habitat for migrating waterfowl and shorebirds and nesting habitat for sensitive avian species.

As discussed above, the evidence presented from the studies and surveys evaluated in the literature review and described under Threshold 1 above indicates that noise and light produced by fireworks display events do disturb California least terns at their nesting colonies. Studies have not shown birds to abandon nests; however, increases in running, flying, and alarm calls in response to fireworks display events have been observed, indicating a moderate level of temporary disturbance. As described in Section 4.3.4.2, *Thresholds of Significance*, biological resources impacts would be considered significant if the proposed project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Based on the information presented under Threshold 1 above, the proposed new fireworks display events are not anticipated to interfere substantially with the movement of any avian species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites (i.e., nesting colonies) because temporary disturbance from noise and light would be short term and infrequent and would not result in direct mortality of birds, a decrease in productivity, or long-term

changes in behavior (e.g., colony abandonment). Additionally, the proposed ordinance includes a number of noise and light reduction requirements for fireworks display events that would occur during the breeding season, which would further reduce the temporary disturbance experienced by migrating avian species.

As discussed above and in Appendix F, sound pressures in the range produced by fireworks display events generally decouple at the air-water interface. This suggests that increased noise from fireworks display events would minimally affect marine mammals and marine reptiles in the water that would potentially be migrating through San Diego Bay. Additionally, increased light levels would only be apparent to marine mammals and marine reptiles surfacing to breathe at the time of the fireworks display events as they pass along the National City and Chula Vista Bayfronts. As mentioned, based on the limited presence of marine mammals and lack of haul-out areas in the southern portion of the Bay, potential disturbances to these species from increased noise and light associated with the proposed new fireworks display events is further reduced. As such, the proposed new fireworks display events would not interfere substantially with the movement of any marine species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

It is not anticipated that fireworks-generated trash and debris would result in a change in migration patterns or abandonment of migration corridors. Overall, due to a lack of defined movement corridors within the study area and the short duration of fireworks display events, they are unlikely to result in long-term alteration of migratory patterns or abandonment of nesting sites. Consequently, it is not anticipated that fireworks-generated debris, light, and noise would alter the migratory patterns of any species or render nesting sites inhospitable. Therefore, direct impacts of the proposed new fireworks display events on wildlife corridors, movement of resident and migratory species, and usage of nursery sites would be less than significant.

Furthermore, the proposed ordinance requires the removal and proper disposal of all fireworks packaging materials, best management practices, and implementation of post-display cleanup practices consistent with the requirements of the General Permit, as well as a reduction in the amount of non-biodegradable fireworks components that can be used. The proposed ordinance also includes a number of noise and light reduction requirements for fireworks display events that occur during the nesting season. Compliance with the proposed ordinance would reduce the potential effects of fireworks noise and light on migrating and nesting species and ensure that fireworks-generated trash and debris are collected and disposed of and that the use of non-biodegradable fireworks components is limited, which would further reduce the potential for the proposed new fireworks display events to result in changes in migration patterns or abandonment of migration corridors. As discussed under Thresholds 2 and 3 above, impacts on eelgrass beds and its nursery habitat functions from potential propeller wash or launch barge grounding at the Chula Vista Bayfront launch site located over or near eelgrass would be considered a significant effect (**Impact-BIO-6**). This could result in temporary and/or permanent losses of eelgrass. However, implementation of **MM-BIO-3**, which requires implementation of the biological resources-related conditions of the proposed ordinance related to eelgrass, includes pre- and post-event eelgrass surveys, tug operator training to ensure that the operators are advised of eelgrass concerns, and thrust rate and angle requirements to minimize propeller wash for potential direct impacts on eelgrass habitat and its nursery functions. Impacts would be reduced to less-than-significant levels.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval that would reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront. The proposed ordinance requires implementation of post-display cleanup practices consistent with the requirements of SDRWQCB's General Permit, as well as a reduction in the amount of non-biodegradable fireworks components that can be used. The proposed ordinance also includes a condition of approval that would require the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan for each fireworks display event consistent with the requirements of SDRWQCB's General Permit. These conditions would require additional cleanup of fireworks-generated trash and debris from existing fireworks display events and that the use of non-biodegradable fireworks components is limited, thereby reducing the potential for migrating marine reptiles, avian species, and marine mammals to be injured by mistakenly consuming waste. Additionally, the proposed ordinance includes a number of noise and light reduction requirements for fireworks display events, including existing displays that would occur during the breeding season. Compliance with the proposed ordinance would improve the existing condition by minimizing the disturbance experienced by avian species, marine mammals, and marine reptiles during existing fireworks display events and ensuring that noise and light from existing fireworks display events would not alter the migratory patterns of any species or render nesting sites inhospitable within San Diego Bay and the Imperial Beach Oceanfront. Therefore, the effects of the proposed ordinance on existing fireworks display events would not result in any significant adverse direct impacts on wildlife corridors, movement of resident and migratory species, or usage of nursery sites. No significant adverse impacts would occur.

Indirect Impacts

Proposed New Fireworks Display Events

As stated above, San Diego Bay does not provide any terrestrial movement corridors, nor any marine mammal, reptile, or fish migratory corridors. However, the southern portions of the Bay, including the South San Diego Bay Unit of the San Diego Bay NWR, provide stopover habitat for migrating waterfowl and shorebirds. Additionally, the south San Diego Bay also provides nesting habitat for migratory avian species. Marine mammals only rarely occur in the south Bay region, but green sea turtles occasionally migrate in and out of the Bay. The proposed new fireworks display events would be closer to sensitive wetland habitats within the Bay that provide stopover habitat for migrating waterfowl and shorebirds and nesting habitat (e.g., wildlife nursery sites) for sensitive avian species.

Indirect impacts from human-generated debris, increased boat traffic, and human disturbance during and immediately after the proposed new fireworks display events could affect movement of resident or migrating species or use of nursery sites. As discussed under Threshold 1 above, indirect impacts on sensitive avian species from proposed new fireworks display events, such as increased foot traffic in or adjacent to nesting sites, increased human-generated trash, and noise associated with boating activity are potentially a greater threat to avian species than direct impacts. While many nesting sites for California least tern and western snowy plover in San Diego Bay are located behind fences or in secured areas, others are not, and even fenced sites are accessible by water.

Therefore, indirect impacts of the proposed new fireworks display events on wildlife corridors and movement of resident and migratory species are considered less than significant due to the short-term disturbance and would not result in changes in migratory movement or abandonment of stopover areas along migratory routes. However, indirect impacts on usage of nursery sites are considered potentially significant due to disturbance noted in nesting birds (**Impact-BIO-8**).

Mitigation measure **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance for indirect impacts, which include the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-2** would reduce potentially significant indirect impacts on the usage of nursery sites by avian species to less-than-significant levels.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval to reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront, including the implementation of cleanup, security, signage, and education measures. Compliance with the proposed ordinance would improve the existing condition by reducing the indirect effects of human trespass, increased boat traffic, and human-generated trash and debris during existing fireworks display events on wildlife corridors, movement of resident and migratory species, and usage of nursery sites. Therefore, the effects of the proposed ordinance on existing fireworks display events would not result in any significant adverse indirect impacts on wildlife corridors, movement of resident and migratory species, or usage of nursery sites. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Potentially significant impact(s) include:

Please see the discussion regarding **Impact-BIO-1** through **Impact-BIO-4**.

Impact-BIO-8: Potential Indirect Impact on Usage of Nursery Sites from Increased Human Activity. Indirect impacts on protected avian species from proposed new fireworks display events, such as increased foot traffic in or adjacent to nesting sites, increased human-generated trash, and noise associated with boating activity, are potentially a greater threat than direct impacts. While many nesting sites for California least tern and western snowy plover in San Diego Bay are located behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts of proposed new fireworks display events on usage of nursery sites are considered potentially significant due to disturbance noted in nesting birds.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Mitigation Measures

Proposed New Fireworks Display Events

Implement **MM-BIO-1** and **MM-BIO-2** as described under Threshold 1.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

There is the potential for indirect impacts on sensitive avian species from proposed new fireworks display events, such as increased foot traffic in or adjacent to nesting sites, increased human-generated trash, and noise associated with boating activity. Indirect impacts of proposed new fireworks display events on usage of nursery sites are considered potentially significant due to disturbance noted in nesting birds (**Impact-BIO-8**). Mitigation measure **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance for indirect impacts, which include the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-2** would reduce potentially significant indirect impacts on the usage of nursery sites by avian species to less-than-significant levels.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 5: Implementation of the proposed project would conflict with any applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Threshold 6: Implementation of the proposed project would conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Impact Discussion

Proposed New Fireworks Display Events

The applicable local land use plans, policies, ordinances, or regulations of the District, adopted for the purpose of protecting biological resources, are the PMP, San Diego Unified Port District Code, Chula Vista Bayfront Master Plan NRMP, and INRMP. The District and the U.S. Navy Southwest Division maintain and implement the INRMP. The INRMP catalogues the plant and animal species around the Bay and identifies habitat types with the purpose of ensuring the long-term health, recovery, and protection of San Diego Bay's ecosystem in concert with economic, Naval, recreational, navigational, and fisheries needs. In addition, the District has established goals to protect, preserve, and enhance natural resources in San Diego Bay in Section II of the PMP, Planning Goals (Goal XI). The proposed new fireworks display events are within PMP Planning District 5 (National City Bayfront) and Planning District 7 (Chula Vista Bayfront).

In addition, while no fireworks display events are proposed within either Planning District 8 (Silver Strand South) or Planning District 9 (South Bay Salt Lands), the proposed new fireworks display events have the potential to result in indirect impacts on sensitive habitat within these Planning Districts. As discussed in Section 4.8, *Land Use and Planning*, the proposed project is consistent with the overarching goals of the PMP, including those pertaining to the protection of biological resources. Additionally, the proposed project is consistent with the Chula Vista Bayfront NRMP and the INRMP. Accordingly, the proposed project would not conflict with these local land use plans, policies, ordinances, or regulations protecting biological resources.

The District is not subject to the land use plans, regulations, or policies of the five member cities in which it has land under its jurisdiction, which include the cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach. For a single location development project, it is easy to isolate potential impacts and determine the applicable land use regulations binding on that project. In the case of a project that occurs entirely within the District's jurisdiction, the PMP would be the binding land use plan. However, because of the potential regional effects of the fireworks display events associated with the proposed project, potential direct and indirect impacts may extend beyond the location of the actual displays and affect biological resources in neighboring jurisdictions. For these reasons, the local policies and ordinances protecting biological resources for each of the five member cities should also be considered, as applicable.

San Diego and Chula Vista MSCPs

There are several other adopted habitat or natural community conservation plans that apply in the surrounding area. In the City of San Diego, local habitat, species, and biological resources are protected under the City's MSCP, which is implemented through the MSCP Subarea Plan (City of San Diego 1997). The City's MSCP Subarea Plan was developed to meet the requirements of the California Natural Communities Conservation Planning Act of 1992, and as such serves as the City's approved local natural community conservation plan. To implement its portion of the MSCP preserve, the City developed the MHPA, which is considered an urban preserve that delineates core biological resource areas and corridors targeted for conservation. The project sites are generally several miles outside the boundary of the nearest MHPA. The closest designated MHPA is approximately 1.25 miles south of the proposed barge location for the fireworks display events along the Chula Vista Bayfront, and encompasses the southeastern portion of the South San Diego Bay Unit of the San Diego Bay NWR (USFWS 2006). As discussed under Thresholds 3 and 4 above, the new fireworks display events proposed along the National City and Chula Vista Bayfronts in south San Diego Bay may result in direct impacts on this habitat from fireworks-generated trash and debris. Additionally, future fireworks display events proposed along the National City and Chula Vista Bayfronts may result in a number of indirect impacts, including minor damage to eelgrass beds as a result of unauthorized anchoring and/or propeller dragging associated with increased boat traffic, as well as from visitors who inadvertently enter eelgrass or salt marsh habitat while dragging their kayaks or other personal watercraft onto shorelines adjacent to coastal salt marshes. In addition, the proposed new fireworks display events may attract crowds to the Silver Strand State Beach, some of whom may trespass into sensitive beach areas that are utilized by sensitive avian species. Potential indirect impacts on habitats include trampling of vegetation and an increase of human-generated trash and litter. Other potential indirect impacts include inadvertent damage to sensitive habitats and wetlands (e.g., eelgrass and coastal salt marshes) caused by boat or foot traffic into these areas.

Additionally, portions of the Sweetwater Marsh Unit of the San Diego Bay NWR are within the Chula Vista MSCP planning subarea, particularly the eastern portion of the Otay River Valley (City of Chula Vista 2003). Similar to the City of San Diego MSCP Subarea Plan, the Chula Vista MSCP Subarea Plan was prepared to meet the requirements of the Natural Communities Conservation Planning Act of 1992 and serves as the City's approved local natural community conservation plan. The Chula Vista MSCP Subarea Plan identifies land targeted for conservation and designates that land for placement within their MSCP Preserve. As mentioned, the proposed new fireworks display events along the National City and Chula Vista Bayfronts may result in direct impacts on habitat within the Sweetwater Marsh Unit of the San Diego Bay NWR from fireworks-generated trash and debris. Additionally, these proposed new fireworks display events may potentially result in indirect impacts on habitat, particularly eelgrass beds, as a result of increased visitor and boat activity before, during, and after the fireworks display events. Any impacts on City of San Diego MHPA or City of Chula Vista MSCP Preserve lands, whether direct or indirect, would be significant. Consequently, the proposed project has the potential to conflict with the City of San Diego and City of Chula Vista MSCP Subarea Plans (**Impact-BIO-9**). As discussed above under Thresholds 2 and 3, **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of best management practices, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1**

also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Additionally, **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance that would reduce potential indirect impacts on biological resources, including the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-1** and **MM-BIO-2** would reduce potentially significant direct impacts on habitat from fireworks-generated trash and debris and indirect impacts on habitat from human trespass, increased boat traffic, and human-generated trash and debris to less-than-significant levels. Consequently, potential impacts on City of San Diego MHPA or City of Chula Vista MSCP Preserve lands would also be reduced to a less-than-significant level. As such, the proposed project would not conflict with these two natural community conservation plans.

San Diego Bay National Wildlife Refuge

Particular areas in south San Diego Bay are also designated national wildlife refuges and reserves. One of these refuges is the San Diego Bay NWR, which is managed by USFWS. Accordingly, the applicable conservation and management plan for this refuge is also considered in the analysis. The San Diego Bay NWR consists of the Sweetwater Marsh and South San Diego Bay Units, which are collectively managed by USFWS through the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan (2006). This plan was prepared jointly with an Environmental Impact Statement in compliance with the National Environmental Policy Act. As mentioned, proposed new fireworks display events along the National City and Chula Vista Bayfronts may result in significant direct impacts on sensitive habitat within the San Diego Bay NWR from fireworks-generated trash and debris. Additionally, the South San Diego Bay Unit of the San Diego Bay NWR provides stopover habitat for migrating waterfowl and shorebirds. The south San Diego Bay also provides nesting habitat for migratory avian species, and marine turtles swim in and out of the Bay, as well.

It is not anticipated that fireworks-generated debris, light, and noise will alter the migratory patterns of any species, nor render nesting sites inhospitable. However, as discussed under Threshold 1, the proposed National City and Chula Vista Bayfronts fireworks display events would potentially result in significant direct impacts on green sea turtles present within south San Diego Bay from the introduction of fireworks-generated trash and debris, which could cause suffocation, starvation, or debilitation if these species mistakenly consume the waste.

Additionally, these proposed new fireworks display events may also potentially result in significant indirect impacts on sensitive habitat within the San Diego Bay NWR due to increased visitor and boat activity. The large number of visitors is likely to result in increased amounts of human-generated trash and debris from picnics and parties along the shoreline, some of which could wash into adjacent Bay waters and degrade sensitive habitat. Increased boat traffic could result in minor damage to eelgrass beds through unauthorized anchoring and/or propeller dragging. Although these proposed new fireworks display events would not occur immediately adjacent to salt marshes, visitors that view the fireworks display events from kayaks or personal watercraft could drag watercraft onto shorelines adjacent to coastal salt marshes and inadvertently damage eelgrass or marsh habitat. The increase in boating activity, particularly nighttime and out-of-channel boat traffic, would also increase the potential for propeller strikes with green sea turtles. Increased boating activities could cause the animals to temporarily depart the project area before, during, and after the time of the proposed new fireworks display events to avoid higher vessel traffic. The increase in activity may also affect the turtles' foraging habits in that individuals may spend more time underwater, swim at greater speeds, and alter other life history traits leading to greater energy

expenditure. The introduction of human-generated trash could also cause injury to turtles if they mistakenly consume the waste, which could also cause suffocation, starvation, or debilitation. These potential direct and indirect impacts on sensitive habitat and green sea turtles present within the San Diego Bay NWR would be significant. Consequently, the proposed project would have the potential to conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan (**Impact-BIO-10**).

As discussed above under Thresholds 1, 2, and 3, **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of best management practices, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Additionally, **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance that would reduce potential indirect impacts on biological resources, including the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-1** and **MM-BIO-2** would reduce potentially significant direct impacts on green sea turtles and habitat from fireworks generated trash and debris and indirect impacts on green sea turtles and habitat from human trespass, increased boat traffic, and human-generated trash and debris to less-than-significant levels. Consequently, potential impacts on the San Diego Bay NWR would also be reduced to a less-than-significant level. As such, the proposed project would not conflict with this habitat conservation plan.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. Within San Diego Bay and the Imperial Beach Oceanfront, the City of San Diego and City of Chula Vista MSCP Subarea Plans and San Diego National Wildlife Refuge Comprehensive Conservation Plan apply to sensitive habitat and species present within the southern portion of the Bay. The proposed ordinance contains several requirements that would reduce potential impacts on biological resources. These include requirements for specific packaging materials, best management practices, and implementation of post-display cleanup practices consistent with the requirements of the General Permit, and a reduction in the amount of non-biodegradable fireworks components that can be used, as well as implementation of cleanup, security, signage, and education measures. Additionally, the proposed ordinance requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan. Consequently, the effects of the proposed ordinance on existing fireworks display events would not conflict with adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans. As such, no significant adverse impact would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would conflict with applicable local policies or ordinances protecting biological resources. Additionally, the proposed project would conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Potentially significant impact(s) include:

Impact-BIO-9: Potential Conflict with the City of San Diego and Chula Vista MSCP Subarea Plans. The proposed new fireworks display events have the potential to result in significant direct and indirect impacts on habitat within the City of San Diego MHPA and City of Chula Vista MSCP Preserve. Any impacts, whether direct or indirect, would be significant. Consequently, the proposed project would have the potential to conflict with the City of San Diego and City of Chula Vista MSCP Subarea Plans.

Impact-BIO-10: Potential Conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. The proposed new fireworks display events have the potential to result in direct and indirect impacts on sensitive habitat and green sea turtles present within the San Diego Bay NWR, which would be considered significant. Consequently, the proposed project would have the potential to conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not conflict with applicable local policies or ordinances protecting biological resources or with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. No significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

Implement **MM-BIO-1** and **MM-BIO-2** as described under Threshold 1.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events may result in direct and indirect impacts on sensitive habitats and wildlife species within the City of San Diego MHPA, City of Chula Vista MSCP Preserve, and San Diego Bay NWR (**Impact-BIO-9** and **Impact-BIO-10**). Mitigation measure **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks

components that can be used, implementation of best management practices, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Additionally, **MM-BIO-2** requires implementation of the biological resources-related conditions of the proposed ordinance that would reduce potential indirect impacts on biological resources, including the implementation of cleanup, security, signage, and education measures. Implementation of **MM-BIO-1** and **MM-BIO-2** would reduce potential direct and indirect impacts on wildlife species and habitat within the City of San Diego MHPA, City of Chula Vista MSCP Preserve, and San Diego Bay NWR to less-than-significant levels. Compliance with the proposed ordinance, as required by **MM-BIO-1** and **MM-BIO-2**, would ensure that the proposed new fireworks display events would not conflict with applicable local policies or ordinances protecting biological resources or conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Greenhouse Gas Emissions, Climate Change, and Energy

4.4.1 Overview

This section describes the existing conditions and applicable laws and regulations for greenhouse gas (GHG) emissions, climate change, and energy use. It analyzes whether the proposed project would result in emissions that are (1) consistent with the District's Climate Action Plan (CAP) reduction targets and consistent with regulatory programs outlined in the Scoping Plan and adopted by the California Air Resources Board (ARB) or other California agencies to reduce GHG emissions in 2020; (2) consistent with the post-2020 reduction targets set forth through California Executive Order (EO) S-03-05 and EO B-30-15 and consistent with plans, policies, and regulations promulgated to reduce GHG emissions post-2020; and whether the project would (3) expose property and persons to the physical effects of climate change, including, but not limited to, flooding, public health risk, wildfire risk, or other impacts resulting from climate change. This section also quantifies operational energy consumption and evaluates whether the proposed project would result in the wasteful, inefficient, and unnecessary consumption of energy.

The proposed project would not result in any significant impacts related to GHG emissions, climate change, or energy use.

4.4.2 Existing Conditions

This section provides a discussion of the existing understanding of global climate change and GHG emissions. It also provides a discussion of energy resources as they relate to fireworks display events.

4.2.1.1 Climate Change and Greenhouse Gases

The proposed new fireworks display events would occur within San Diego Bay, which is within the San Diego Air Basin (SDAB). As discussed below, GHGs are global pollutants that contribute to global warming of the Earth's lower atmosphere.

Overview of Global Climate Change

The phenomenon known as the *greenhouse effect* keeps the atmosphere near the Earth's surface warm enough for the successful habitation of humans and other life forms. GHGs associated with the *greenhouse effect* include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), perfluorinated carbons (PFCs), sulfur hexafluoride (SF₆), and hydrofluorocarbons (HFCs), in addition to water vapor. These six gases are also identified as GHGs in Section 15364.5 of the State CEQA Guidelines.

Sunlight in the form of infrared, visible, and ultraviolet light passes through the atmosphere. Some of the sunlight striking the Earth is absorbed and converted to heat, which warms the surface. The

surface emits infrared radiation to the atmosphere where some of it is absorbed by GHGs and re-emitted toward the surface. Human activities that emit additional GHGs to the atmosphere increase the infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and amplifying the warming of the Earth (Center for Climate and Energy Solutions 2011).

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels enhance the greenhouse effect, which contributes to global warming of the Earth's lower atmosphere. This warming induces large-scale changes in ocean circulation patterns, precipitation patterns, global ice cover, biological distributions, and other changes to the Earth system that are collectively referred to as *climate change*.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs). Criteria air pollutants and TACs occur locally or regionally, and local concentrations respond to locally implemented control measures. However, the long atmospheric lifetimes of GHGs allow them to be transported great distances from sources and become well mixed, unlike criteria air pollutants, which typically exhibit strong concentration gradients away from point sources. GHGs and global climate change represent cumulative impacts (i.e., GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change).

Principal Greenhouse Gases

The GHGs listed by the Intergovernmental Panel on Climate Change (IPCC) (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) (2014) are discussed in this section in order of abundance in the atmosphere, and the principal characteristics surrounding these pollutants are discussed below. Note that PFCs are not discussed because those gases are generated primarily by industrial processes, which are not part of the proposed project. California law and the State CEQA Guidelines contain a similar definition of GHGs (Health and Safety Code Section 38505(g); 14 California Code of Regulations [CCR] Section 15364.5). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources. Consequently, the primary GHGs of concern associated with the project are CO₂, CH₄, N₂O, HFCs, and SF₆.

- **Carbon Dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). CO₂ is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. CH₄ also results from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- **Nitrous Oxide (N₂O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.
- **Hydrofluorocarbons (HFCs)** are anthropogenic chemicals used in commercial, industrial, and consumer products and have high global warming potential (GWP [see below]). HFCs are generally used as substitutes for ozone-depleting substances in automobile air-conditioners and refrigerants.

- **Sulfur hexafluoride (SF₆)**, a human-made chemical, is used as an electrical insulating fluid for power distribution equipment, in the magnesium industry, in semiconductor manufacturing, and also as a tracer chemical for the study of oceanic and atmospheric processes.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the GWP methodology defined in the IPCC reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO₂e), which compares the gas in question to that of the same mass of CO₂ (which has a GWP of 1 by definition). The GWP values used in this report are based on the IPCC Fourth Assessment Report (AR4) and United Nations Framework Convention on Climate Change reporting guidelines and defined in Table 4.4-1 (IPCC 2007). The AR4 GWP values are used in ARB's California inventory and Assembly Bill (AB) 32 Scoping Plan estimate update as well as in the Port of San Diego's GHG emissions inventory (ARB 2016a; ARB 2014; District 2013).

Table 4.4-1 lists the GWP of CO₂, CH₄, N₂O, HFCs, and SF₆; their lifetimes; and abundance in the atmosphere.

Table 4.4-1. Lifetimes, GWPs, and Abundance of Significant GHGs

Gas	GWP (100 years)	Lifetime (years) ¹	Atmospheric Abundance
CO ₂	1	50–200	400 ppm
CH ₄	25	9–15	1,834 ppb
N ₂ O	298	121	328 ppb
HFC-23	14,800	222	18 ppt
HFC-134a	1,430	13.4	84 ppt
HFC-152a	124	1.5	3.9 ppt
SF ₆	22,800	3,200	8.6 ppt

Sources: Myhre et al. 2013; Blasing 2016; IPCC 2007.

¹ Defined as the half-life of the gas.

ppm = parts per million; ppb = parts per billion; ppt = parts per trillion.

Greenhouse Gas Inventories

A GHG inventory is a quantification of all GHG emissions and sinks¹ within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a particular building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources.

Table 4.4-2 outlines the most recent global, national, statewide, and local GHG inventories to help contextualize the magnitude of potential project-related emissions.

¹ A GHG sink is a process, activity, or mechanism that removes a GHG from the atmosphere.

Table 4.4-2. Global, National, State, and Local GHG Emissions Inventories

Emissions Inventory	CO₂e (metric tons)
2010 IPCC Global GHG Emissions Inventory	52,000,000,000
2014 EPA National GHG Emissions Inventory	6,870,000,000
2014 ARB State GHG Emissions Inventory	441,500,000
2012 County of San Diego GHG Emissions Inventory	34,670,000
2010 City of San Diego GHG Emissions Inventory	13,091,591
2006 Port of San Diego GHG Emissions Inventory ¹	826,429

Sources: IPCC 2014; EPA 2016; ARB 2016a; Energy Policy Initiatives Center 2015; City of San Diego 2015; District 2013.

¹ The Port of San Diego's GHG emissions inventory is based on the 2013 Climate Action Plan rather than the District's 2012 Maritime Air Emissions Inventory because the Climate Action Plan provides a more comprehensive inventory of the District's activities and GHG emissions profile.

EPA = U.S. Environmental Protection Agency

Impacts of Global Climate Change

Climate change is a complex phenomenon that has the potential to alter local climatic patterns and meteorology. Although modeling indicates that climate change will result in sea-level rise (SLR) (both globally and regionally) as well as changes in climate and rainfall, among other effects, there remains uncertainty with regard to characterizing precise *local* climate characteristics and predicting precisely how various ecological and social systems will react to any changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that substantial climate change is expected to occur in the future, although the precise extent will take further research to define. Consequently, the entire San Diego region, including the project area, will be affected by changing climatic conditions.

Research efforts coordinated through ARB, the California Energy Commission (CEC), the California Environmental Protection Agency, the University of California system, and others are examining the specific changes to California's climate that will occur as the Earth's surface warms. Potential impacts include rising sea levels along the California coastline; extreme heat conditions; an increase in heat-related human deaths, infectious diseases, and respiratory problems caused by deteriorating air quality; reduced snow pack and streamflow in the Sierra Nevada, affecting winter recreation and water supplies; a potential increase in the severity of winter storms, affecting peak streamflows and flooding; changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield; and changes in the distribution of plant and wildlife species due to changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

With respect to the San Diego region, The San Diego Foundation's *A Regional Wake-Up Call* (2013), which summarizes the CEC's *Climate Change-Related Impacts in the San Diego Region by 2050* paper (CEC 2009), provides a summary of potential climate change impacts in the region (Ocean Protection Council 2013), which include the following:

- **Increased temperatures:** The San Diego region will see hotter and drier days and more frequent, prolonged heat waves. Average annual temperatures are expected to increase 1.5°F–4.5°F (CEC 2009; The San Diego Foundation 2013).

- **Reduction in air quality:** Hotter and drier days create more air pollution by raising ozone levels. This can exacerbate asthma and other respiratory and cardiovascular diseases (CEC 2009).
- **Introduction of new public health issues:** Warmer temperatures year-round could lead to growing mosquito populations, increasing the regional occurrence of West Nile virus and potentially introducing tropical diseases such as malaria and dengue fever (CEC 2009).
- **Reductions in fresh water:** Water and energy demand will increase, while extended and more frequent droughts will cause traditional sources of fresh water supplies to diminish. Reduced local and regional precipitation could shrink water supplies by 20 percent or more, while water demand is expected to increase 37 percent. There could be an 18 percent water shortage by 2050 (CEC 2009; The San Diego Foundation 2013).
- **Increased rate of wildfires:** Drier weather may increase the frequency and size of wildfires, with an estimated 20 percent increase in the number of days with ideal fire conditions (CEC 2009; The San Diego Foundation 2013).
- **Rising sea levels:** Projected SLR, coastal erosion, and increasing storm surges may collapse fragile sea cliffs, shrink beaches, and destroy coastal property and ecosystems. Sea levels are expected to rise 12 to 16 inches by 2020 (CEC 2009; The San Diego Foundation 2013), 24 inches by 2050, and 65.7 inches by 2100, relative to 2000 conditions (Ocean Protection Council 2013; Coastal and Ocean Working Group of the California Climate Action Team 2013).

Sea Level Rise

Projected SLR as an effect of climate change is expected to increase the number of areas that experience coastal flooding along San Diego Bay in the future. Coastal and low-lying areas, such as the project area, are particularly vulnerable to future SLR. More specifically, SLR is a concern for the future, particularly in combination with future storm events and coastal flooding. A scenario with 100-year flood flows that coincide with high tides, taking into account SLR over a 50- or 100-year horizon, would dramatically increase the risk of flooding in the project vicinity.

Specifically regarding SLR, the San Diego Bay Vulnerability Assessment conducted by ICLEI– Local Governments for Sustainability found that the greatest concern from SLR will be an increase in the kind of flooding that the region already experiences due to waves, storm surge, El Niño events, and very high tides. Furthermore, starting around mid-century, San Diego Bay may become more susceptible to regularly occurring inundation of certain locations and assets. The most vulnerable sectors in the community include stormwater management, wastewater collection, shoreline parks and public access, transportation facilities, commercial buildings, and ecosystems (ICLEI 2012). According to the map in the San Diego Bay Vulnerability Assessment report, various locations within San Diego Bay are within the SLR hazard zone for 2050.

The Coastal and Ocean Working Group of the California Climate Action Team developed the *State of California Sea-Level Rise Guidance Document* for state agencies to incorporate SLR into planning and decision-making for projects in California. The document was developed in response to Governor Schwarzenegger’s EO S-13-08, issued on November 14, 2008, which directed state agencies to plan for SLR and coastal impacts. That EO also requested the National Research Council (NRC) to issue a report on SLR to advise California on planning efforts. The final report from NRC, *Sea-Level Rise for the Coasts of California, Oregon, and Washington*, was released in June 2012. The *State of California Sea-Level Rise Guidance Document* was last updated in March 2013 with the scientific findings of the 2012 NRC report.

In the Coastal and Ocean Working Group of the California Climate Action Team SLR guidance document (Coastal and Ocean Working Group of the California Climate Action Team 2013), three SLR projections, based on time periods (2030, 2050, and 2100), were selected for south of Cape Mendocino using 2000 as the baseline. Table 4.4-9 provides a summary of the SLR projections relevant to the project area during the life of the proposed project, which, for purposes of this analysis, is assumed to be 2050.

4.2.1.2 State and Regional Energy Resources and Use

California has a diverse portfolio of energy resources that produced 2,335.5 trillion British thermal units² (BTUs) in 2012.³ Excluding offshore areas, the state ranked third in the nation in crude oil production in 2012, producing the equivalent of 1,143.8 trillion BTUs. The state also ranked fourth in the nation in conventional hydroelectric generation (23,755 megawatt hours [MWh]) and first in the nation for net electricity generation from renewable resources. Other energy sources in the state include natural gas (277.7 trillion BTUs), nuclear (193.9 trillion BTUs), and biofuels (24.3 trillion BTUs) (U.S. Energy Information Administration 2014).⁴

According to the U.S. Energy Information Administration (2014), California consumed approximately 7,612 trillion BTUs of energy in 2012. Per capita energy consumption (i.e., total energy consumption divided by the population) in California is among the lowest in the country, with 201 million BTU in 2012, which ranked 49th among all states. Natural gas accounted for the majority of energy consumption (32 percent), followed by motor gasoline (22 percent), distillate and jet fuel (14 percent), interstate electricity (11 percent), and nuclear and hydroelectric power (6 percent), with the remaining 15 percent coming from a variety of other sources (U.S. Energy Information Administration 2014). The transportation sector consumed the highest quantity of energy (38.5 percent), followed by the industrial and commercial sectors.

Per capita energy consumption, in general, is declining because of improvements in energy efficiency and design. However, despite this reduction in per capita energy use, the state's total overall energy consumption (i.e., non-per capita energy consumption) is expected to increase over the next several decades because of growth in population, jobs, and vehicle travel. For example, electricity usage is anticipated to grow about 9 to 15 percent over the next decade (2015–2025) (CEC 2014).

San Diego County is served by San Diego Gas and Electric (SDG&E), which provides energy service to more than 3.4 million customers (i.e., 1.4 million accounts) in the county and portions of southern Orange County. The utility has a diverse power production portfolio, composed of a variety of renewable and non-renewable sources. Energy production typically varies by season and by year. Regional electricity loads tend to be higher in the summer because the higher summer temperatures drive increased demand for air-conditioning. In contrast, natural gas loads are higher in the winter because the colder temperatures drive increased demand for natural gas heating.

² One BTU is the amount of energy required to heat 1 pound of water by 1°F at sea level. BTU is a standard unit of energy that is used in the United States and is on the English system of units (foot-pound-second system).

³ Note that 2012 data are the most recent available at the U.S. Energy Information Administration website, at http://www.eia.gov/state/seds/sep_prod/pdf/P5.pdf. Accessed July 25, 2015.

⁴ No coal production occurs in California.

In 2014 (most recent year for which California Renewables Portfolio Standard [RPS] data are available), more than 36 percent of the electricity SDG&E supplied was from renewable sources, compared to less than 1 percent in 2002 (California Public Utilities Commission 2016). Over the last 3 years, SDG&E customers have reduced their electricity use by more than 911 million kilowatt hours (kWh) and their gas usage by more than 1.8 million therms (Sempra Energy Company 2014).

4.4.3 Applicable Laws and Regulations

This section summarizes federal, state, and local laws and regulations related to GHG emissions, climate change, and energy resources that are applicable to the proposed project.

4.4.3.1 Federal

Climate change is widely recognized as an imminent threat to the global climate, economy, and population. The U.S. Environmental Protection Agency (EPA) has acknowledged potential threats imposed by climate change in a Cause or Contribute Finding, which found that GHG emissions contribute to pollution that threatens public health and welfare—a necessary finding prior to adopting new vehicle emissions standards to reduce GHG emissions. Federal climate change regulation under the federal Clean Air Act (CAA) is currently under development for both existing and new sources. Despite the actions discussed below, there is still no comprehensive, overarching federal law specifically related to the reduction of GHG emissions.

U.S. Environmental Protection Agency Mandatory Reporting Rule for GHGs (2009)

On September 22, 2009, EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), which required EPA to develop “mandatory reporting of greenhouse gases above appropriate thresholds in all sectors of the economy.” The Reporting Rule applied to most entities that emit 25,000 metric tons of CO₂e or more per year. Starting in 2010, facility owners were required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for EPA to verify annual GHG emissions reports.

Greenhouse Gas and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles (2016)

In August 2016, EPA adopted a second round of standards for medium- and heavy-duty vehicles to cut carbon pollution and improve fuel efficiency from trucks. The Phase 2 program will reduce CO₂ emissions starting in model year 2018 and fuel consumption and GHG emissions from tractor trailers as much as 24 percent once fully implemented for certain truck types.

Energy Policy Act of 2005

The Energy Policy Act of 2005, implemented by the U.S. Department of Energy, establishes a comprehensive, long-term energy policy. The Energy Policy Act addresses energy production in the U.S., including oil, gas, coal, and alternative forms of energy, as well as energy efficiency and tax incentives. Energy efficiency and tax incentive programs include credits for the construction of new

energy-efficient homes, production or purchase of energy-efficient appliances, and loan guarantees for entities that develop or use innovative technologies that avoid the production of GHGs.

4.4.3.2 State

California has adopted statewide legislation to address various aspects of climate change, GHG mitigation, and energy efficiency. Much of this establishes a broad framework for the state's long-term GHG and energy reduction goals and climate change adaptation program. The former and current governors of California have also issued several EOs related to the state's evolving climate change policy. Summaries of key policies, EOs, regulations, and legislation at the state level that are relevant to the project are provided below in chronological order.

Assembly Bill 1493—Pavley Rules (2002, amendments 2009)/Advanced Clean Cars (2011)

Known as Pavley I, AB 1493 provided the nation's first GHG standards for automobiles. AB 1493 required ARB to adopt vehicle standards that will lower GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (referred to previously as *Pavley II* and now referred to as the *Advanced Clean Cars [ACC]* measure) was adopted for vehicle model years 2017–2025 in 2012. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.

Senate Bills 1078/107/X 1-2—Renewables Portfolio Standard and Renewable Energy Resources Act (2002, 2006, 2011)

Senate Bills (SBs) 1078 and 107, California's RPS, obligated investor-owned utilities, energy service providers, and Community Choice Aggregations to procure an additional 1 percent of retail sales per year from eligible renewable sources until 20 percent is reached by 2010. The California Public Utilities Commission and CEC are jointly responsible for implementing the program. SB X 1-2, called the California Renewable Energy Resources Act, obligates all California electricity providers to obtain at least 33 percent of their energy from renewable resources by 2020. As of 2015, SDG&E's renewable procurement was 35.2 percent. As noted below, SB 350 increased the RPS to 50 percent for 2030.

Senate Bill 350 (2015)

SB 350 (De Leon, also known as the "Clean Energy and Pollution Reduction Act of 2015") was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) an RPS of 50 percent and (2) a doubling of efficiency for existing buildings.

Executive Order S-03-05 (2005) and Executive Order B-30-15 (2015)

EO S-03-05 is designed to reduce California's GHG emissions to (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80 percent below 1990 levels by 2050. EO B-30-15 was signed in 2015 and is designed to reduce California's GHG emissions to 40 percent below 1990 levels by 2030.

Assembly Bill 32—California Global Warming Solutions Act (2006)

AB 32 codified the state's GHG emissions target by requiring California's global warming emissions to be reduced to 1990 levels by 2020. Since being adopted, ARB, CEC, the California Public Utilities Commission, and the California Building Standards Commission have been developing regulations that will help the state meet the goals of AB 32 and EO S-03-05. The Scoping Plan for AB 32 identifies specific measures to reduce GHG emissions to 1990 levels by 2020 and requires ARB and other state agencies to develop and enforce regulations and other initiatives to reduce GHG emissions. The AB 32 Scoping Plan, first adopted in 2008, comprises the state's roadmap for meeting AB 32's reduction target. Specifically, the Scoping Plan articulates a key role for local governments by recommending that they establish GHG emissions-reduction goals for both their municipal operations and the community that are consistent with those of the state (i.e., approximately 15 percent below current levels) (ARB 2008).

ARB re-evaluated its emissions forecast in light of the economic downturn and updated the projected 2020 emissions to 545 million metric tons of carbon dioxide equivalent (MTCO_{2e}). Two reduction measures (Pavley I and RPS [12 to 20 percent]) that were not previously included in the 2008 Scoping Plan baseline were incorporated into the updated baseline, further reducing the 2020 statewide emissions projection to 507 million MTCO_{2e}. The updated forecast of 507 million MTCO_{2e} is referred to as the AB 32 2020 baseline. An estimated reduction of 80 million MTCO_{2e} is necessary to lower statewide emissions to the AB 32 target of 427 million MTCO_{2e} by 2020 (ARB 2014).

ARB approved the *First Update to the Scoping Plan* on May 22, 2014 (ARB 2014). The first update includes both a 2020 element and a post-2020 element. The 2020 element focuses on the state, regional, and local initiatives that are being implemented now to help the state meet the 2020 goal. ARB is currently working on a second update to the Scoping Plan to reflect the 2030 target established in EO B-30-15, noting that "California has already made great progress in driving the development of clean technologies thanks to programs developed under AB 32 and other important legislation; the 2030 target will ensure that success continues beyond 2020" (ARB 2015).

Senate Bill 32, California Global Warming Solutions Act of 2006: Emissions Limit, and Assembly Bill 197, State Air Resources Board, Greenhouse Gases, Regulations (2016)

SB 32 (Pavley) requires ARB to ensure that statewide GHG emissions are reduced to at least 40 percent below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. The bill specifies that SB 32 shall become operative only if AB 197 (Garcia) is enacted and becomes effective on or before January 1, 2017. AB 197 creates requirements to form the Joint Legislative Committee on Climate Change Policies; requires ARB to prioritize direct emission reductions from stationary sources, mobile sources, and other sources and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit; requires ARB to prepare reports on sources of GHGs, criteria air pollutants, and toxic air contaminants; establishes 6-year terms for voting members of ARB; and adds two legislators as non-voting members of ARB. Both bills were signed by Governor Brown in September 2016.

ARB recently released its Draft 2017 Scoping Plan Update, which builds on the programs set in place as part of the previous Scoping Plan that was drafted to meet the 2020 reduction targets per AB 32. The Draft 2017 Scoping Plan Update proposed meeting the 2030 goal by accelerating the focus on zero and near-zero technologies for moving freight; continued investment in renewables; greater

use of low-carbon fuels, including electricity and hydrogen; stronger efforts to reduce emissions of short-lived climate pollutants (CH₄, black carbon, and fluorinated gases); further efforts to create walkable communities with expanded mass transit and other alternatives to traveling by car; continuing the cap-and-trade program; and ensuring that natural lands become carbon sinks to provide additional emissions reductions and flexibility in meeting the target. The Scoping Plan also recommends that local governments aim to achieve community-wide efficiency of 6 MTCO_{2e} per capita by 2030 and 2 MTCO_{2e} per capita by 2050 in local climate action planning. These efficiency targets would replace the “15 percent from 2008 levels by 2020” approach recommended in the initial Scoping Plan, which allowed local governments to grow in a sustainable manner (ARB 2016a). The Draft 2017 Scoping Plan Update is currently out for public review. ARB will hold various public meetings as part of the process.

Assembly Bill 1383 (2016), Short-Lived Climate Pollutants, Methane Emissions, Dairy and Livestock, Organic Waste, Landfills

AB 1383 requires ARB to approve and implement a plan to reduce CH₄ by 40 percent, fluorinated gases (F-gases) by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. AB 1383 establishes specific targets for reducing organic waste in landfills (50 percent by 2020 and 75 percent by 2025 compared to 2014). The legislation also adopted regulations to reduce CH₄ emissions from livestock manure management operations and dairy management operations, which would take effect in 2024.

Executive Order S-01-07—Low Carbon Fuel Standard (2007)

EO S-01-07, the Low-Carbon Fuel Standard (LCFS), mandates (1) that a statewide goal be established to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020. The EO initiates a research and regulatory process at ARB. The LCFS regulation does not apply to certain transportation applications, including locomotives and ocean-going vessels (OGVs). Note that the majority of the emissions benefits due to the LCFS come from the production cycle (upstream emissions) of the fuel rather than the combustion cycle (tailpipe). As a result, LCFS-related reductions are not included in this analysis of combustion-related emissions of CO₂.

Senate Bill 375—Sustainable Communities Strategy (2008)

SB 375 provides for a new planning process that coordinates land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires regional transportation plans (RTPs), developed by metropolitan planning organizations, to incorporate a “sustainable communities strategy” (SCS). The goal of the SCS is to reduce regional vehicle miles traveled (VMT) through land use planning and consequent transportation patterns. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development.

The final reduction targets from ARB require the San Diego Association of Governments (SANDAG) to identify strategies to reduce per capita GHG emissions from passenger vehicles by approximately 7 percent by 2020 and 13 percent by 2035 over base year 2005. SANDAG’s 2050 RTP and SCS, which detail steps the region will take to reduce GHG emissions to state-mandated levels, were originally adopted by SANDAG on October 28, 2011 (SANDAG 2011). However, because of a legal challenge to the CEQA document, the RTP and SCS were revised and adopted by SANDAG on October 9, 2015 (SANDAG 2015).

State CEQA Guidelines (2010)

The State CEQA Guidelines require lead agencies to describe, calculate, or estimate the amount of GHG emissions that would result from a project. Moreover, the State CEQA Guidelines emphasize the necessity to determine potential climate change effects of a project and propose mitigation as necessary. They do not prescribe or recommend a specific analysis methodology or provide quantitative criteria for determining the significance of GHG emissions. However, the State CEQA Guidelines do confirm the discretion of lead agencies to determine appropriate significance thresholds but require the preparation of an EIR if “there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with adopted regulations or requirements” (Section 15064.4).

State CEQA Guidelines Section 15126.4 includes considerations for lead agencies related to feasible mitigation measures to reduce GHG emissions, which may include, among others, measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency’s decision; implementation of project features, project design, or other measures that are incorporated into the project to substantially reduce energy consumption or GHG emissions; off-site measures, including offsets that are not otherwise required, to mitigate a project’s emissions; and measures that sequester carbon or carbon-equivalent emissions.

State CEQA Guideline Section 15183.5(a) provides that a lead agency may analyze and mitigate significant effects of GHG emissions at a programmatic level, such as in a plan targeted to reduce GHG emissions. Additionally, the section allows for tiering off and incorporating by reference the environmental analysis done for such plans.⁵ Subdivision (b) of Section 15183.5 also states that a plan to reduce GHG emissions may be used to find that a project’s incremental contribution to the cumulative effect of GHG emissions is not cumulatively considerable if the project complies with the adopted plan and mitigation program. Subdivision (b) of Section 15183.5 provides that such a plan should (1) quantify GHG emissions over a specific time period resulting from activities within a defined geographic area; (2) establish a level below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable; (3) identify and analyze GHG emissions resulting from specific actions or categories of actions within the defined geographic area; (4) specify measures or a group of measures, including performance standards, that if implemented on a project-by-project basis would collectively achieve the specified emissions level; (5) establish a mechanism to monitor the plan’s progress; and (6) be adopted in a public process following environmental review. Such plans may be used in the cumulative impact analysis of later projects, but such later project analysis must identify those requirements specified in the plan that apply to the project and, if those requirements are not otherwise binding and enforceable, incorporate them as mitigation measures.

Western Climate Initiative/California Cap-and-Trade Program (2010/2011)

On October 20, 2011, ARB adopted the final cap-and-trade program for California. The California cap-and-trade program is a market-based system with an overall emissions limit for affected sectors. Examples of affected entities include CO₂ suppliers, in-state electricity generators, hydrogen production, petroleum refining, and other large-scale manufacturers and fuel suppliers. The cap-and-trade program is currently regulating more than 85 percent of California’s emissions.

⁵ Note that this analysis does not tier off or rely on any previous CEQA analysis conducted for a GHG plan.

Compliance requirements began according to the following schedule: (1) electricity generation and large industrial sources by 2012 and (2) fuel combustion and transportation by 2015. Cap-and-trade allowance auction proceeds are used to fund a variety of investments. The first 3-year investment plan prioritizes (1) sustainable communities and clean transportation (including low-carbon freight equipment, with specific emphasis on efforts that would be beneficial for disadvantaged communities located near ports, railyards, freeways, and distribution centers), (2) energy efficiency and clean energy, and (3) natural resources and waste diversion (ARB 2013).

Tractor-Trailer Greenhouse Gas Regulation/ Phase 2 Heavy-Duty Greenhouse Gas Emission Standards (2013/2017 in progress)

ARB approved the Tractor-Trailer Greenhouse Gas Regulation to reduce GHG emissions by requiring the use of aerodynamic tractors and trailers that are also equipped with low rolling resistance tires. The regulation applies to certain Class 8 tractors manufactured for use in California and is harmonized with the parallel EPA and National Highway Traffic Safety Administration heavy-duty truck standards. This regulation could reduce fuel consumption and GHG emissions from new heavy-duty trucks between 4 and 5 percent per year between 2014 and 2018 (EPA 2015). Upon EPA and National Highway Traffic Safety Administration's adoption of Phase 2, ARB plans to approve the California Phase 2 program in late 2017.

Assembly Bill 2076, Reducing Dependence on Petroleum

CEC and ARB are directed by AB 2076 (passed in 2000) to develop and adopt recommendations for reducing dependence on petroleum. A performance-based goal is to reduce petroleum demand to 15 percent less than 2003 demand by 2020.

State CEQA Guidelines, Appendix F

Appendix F of the State CEQA Guidelines contains energy conservation measures that promote the efficient use of energy for projects. In order to ensure that energy impacts are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The analysis in this section considers the expected energy use of the proposed project as well as measures to reduce the project's energy consumption.

The goal outlined in Appendix F of the State CEQA Guidelines is to conserve energy through the wise and efficient use of energy. The means of achieving this goal include the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on natural gas and oil; and
- Increasing reliance on renewable energy sources.

4.4.3.3 Local

The AB 32 Scoping Plan does not provide an explicit role for local air districts in implementing AB 32 but it does state that ARB will work actively with air districts in coordinating emissions reporting, encouraging and coordinating GHG reductions, and providing technical assistance in quantifying reductions. The ability of air districts to control emissions (both criteria pollutants and

GHGs) is provided primarily through permitting as well as through their role as the CEQA lead or commenting agency, the establishment of CEQA thresholds, and the development of analytical requirements for CEQA documents. To date, the San Diego Air Pollution Control District has not developed specific thresholds of significance with regard to the GHG emissions in CEQA documents. Additionally, as discussed in Section 4.4.3.2, under SB 375, SANDAG must prepare an SCS in conjunction with its RTP that reduces VMT and encourages more compact, complete, and efficient communities in the future.

Port of San Diego Clean Air Program

The District developed the Green Port Program to support the goals of the Green Port Policy, which was adopted in 2008. The Green Port Program supports resource conservation, waste reduction, and pollution prevention. The Clean Air Program is one key area of the Green Port Program, with the primary goal of reducing GHG emissions and other air emissions from District operations at its three marine terminals: the Cruise Ship Terminal, Tenth Avenue Marine Terminal, and National City Marine Terminal. The Clean Air Program seeks to voluntarily reduce emissions through the identification and evaluation of feasible and effective control measures. Through this program, the District has identified control measures to achieve a reduction of pollutants from the largest sources, including shore power (to enable ships to turn off their auxiliary engines and plug into electric power while docked), truck replacement/retrofits, replacement/retrofits of cargo-handling equipment (CHE), and voluntary vessel speed reductions (VSR). The Clean Air Program will continue to be refined and adapted to future changes in District operations.

Port of San Diego Climate Action Plan

As noted above, ARB encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the state's commitment to reducing GHG emissions (ARB 2008). The District adopted a CAP in December 2013. The CAP includes an inventory of existing (2006) and projected emissions in 2020, 2035, and 2050 and identifies the District's GHG reduction goals and measures to be implemented to support meeting the statewide reduction goals set forth in AB 32 (i.e., 1990 levels by 2020). District-wide 1990 emissions were not quantified, given the activity data gaps; instead, a base year of 2006 was used to calculate reductions needed at the District to reach 1990 levels by 2020. Consistent with AB 32 targets, a 10 percent reduction target (471.3 million MTCO_{2e} in 2006 and estimated 426.6 million MTCO_{2e} in 1990 statewide) was used as the District-wide reduction target for 2020.⁶

The CAP's 2020 projections and reduction targets (1990 levels) for each activity are based on growth projections specific to each tenant and activity type. For example, the CAP assumes a 3 percent annual growth in maritime-related uses between 2006 and 2020. Thus, the CAP and its reduction targets are specific to the District's geography, type and intensity of uses, and future year projected conditions. Table 4.4-3 provides the CAP's 2006 baseline, projected future year (2020) GHG emissions, and future year GHG emission targets (1990 levels) by activity within the District's jurisdiction. As shown, District-wide emissions are expected to increase from 826,429 MTCO_{2e} in 2006 to 1,039,699 MTCO_{2e} in 2020 without implementation of any CAP or state measures.

⁶ The CAP also includes projected emissions and some reduction policies to achieve the reduction target of 25% less than 2006 baseline levels by 2035 but does not yet quantify those reductions.

Table 4.4-3. GHG Emissions (Metric Tons per Year) by Activity Shown in the CAP

Category	Activity	GHG Emissions By Category and District Activity Type			Percentage Reduction to Achieve 1990 Levels – Specific to the District	
		2006 Baseline	2020 BAU	1990 ¹ Levels	2006 Baseline	2020 BAU
Port Operations	Port Operations	37,164	38,930	33,533	10%	14%
Maritime	Ocean-going Vessels	55,162	72,786	49,773	10%	32%
	Recreational Boating	80,441	118,252	72,583	10%	39%
	Other Terminal Activity ²	89,242	109,859	80,524	10%	27%
	Total Maritime	224,845	300,897	202,880	10%	33%
Other	Industrial	137,426	138,258	124,001	10%	10%
	Shipbuilding	123,725	123,545	111,638	10%	10%
	Lodging	137,429	249,852	124,004	10%	50%
	Other	165,840	188,217	149,639	10%	20%
	Total Other	564,420	699,872	509,282	10%	27%
Total Port-wide		826,429	1,039,699	745,695	10%	28%

Source: Table ES-2 of the CAP (District 2013)

¹ The CAP presents only the 2020 target (1990 levels) for broad source types (electricity and natural gas, transportation, water, and waste) and does not clearly present the emissions target for each activity (OGVs, shipbuilding, etc.) in the main body of the CAP. However, these emission estimates are presented in the CAP appendices (Table ES-2).

² “Other Terminal Activity” includes cargo handling equipment, commercial harbor craft, locomotives, heavy-duty trucks (for transport of goods to/from OGVs), cruise terminal transportation, and terminal tenant operations.

In order to reach the CAP’s target of achieving 745,695 MTCO_{2e} by 2020 (1990 levels), District-wide emissions would need to be reduced by 10 percent below 2006 baseline levels and 28 percent below 2020 business-as-usual (BAU) levels. To achieve the requisite reductions, the CAP includes various reduction measures related to transportation and land use, alternative energy generation, energy conservation, waste reduction and recycling, and water conservation and recycling, a few of which are specific to the proposed project.

A critical aspect of having a CAP that fits the criteria within State CEQA Guidelines Section 15183.5 is to having reduction targets that align with statewide goals. The CAP’s reduction targets parallel the state’s commitment to reducing GHG emissions by 2020 in AB 32 and go even further by identifying targets for a specific location based on projected emissions specific to the District’s geographic location as well as specific activity types and their associated sources. Therefore, because the CAP targets align with statewide goals for 2020, the CAP is consistent with AB 32.

Port of San Diego Green Port Program and Green Port Policy (BPC Policy No. 736)

The Board of Port Commissioners adopted the Green Port Policy in 2007. This policy establishes guiding principles to achieve long-term environmental, societal, and economic benefits through resource conservation, waste reduction, and pollution prevention. The policy provides the overall framework for the Green Port Program. The Green Port Program is an umbrella program designed to achieve the District's environmental sustainability goals in six key areas: water, energy, air, waste management, sustainable development, and sustainable business practices. It was established in early 2008 to achieve the objectives outlined in the Port of San Diego's Green Port Policy. Policy objectives include the following:

- Minimize, to the extent practicable, environmental impacts directly attributable to operations on San Diego Bay and in the tidelands.
- Strengthen the District's financial position by maximizing the long-term benefits of energy and resource conservation.
- Prevent pollution and improve personal, community, and environmental health.
- When possible, exceed applicable environmental laws, regulations, and other industry standards.
- Ensure a balance of environmental, social, and economic concerns are considered during planning, development, and operational decisions.
- Define and establish performance-driven environmental sustainability objectives, targets, and programs.
- Monitor key environmental indicators and consistently improve performance.
- Foster socially and environmentally responsible behavior through communications with employees, tenants, stakeholders, and the community.
- Collaborate with tenants to develop an integrated, measurable, bay-wide environmental sustainability effort.

The Green Port Program focuses primarily on things the District can do to be more environmentally sustainable, such as using less water and being more energy efficient in its own operations. The District also works with its tenants (businesses that lease land from the District), local environmental groups, and others around San Diego Bay to identify ways they can support the Green Port Program.

4.4.4 Project Impact Analysis

4.4.4.1 Methodology

GHG- and energy-related impacts associated with the proposed new fireworks display events were assessed and quantified using industry-standard methodology and peer-reviewed software tools, techniques, and emission factors. A summary of the methodology is provided below. A full list of assumptions and emission calculations can be found in Appendix E.

The analysis herein considers those sources that are directly or indirectly related to the proposed new fireworks display events. Direct effects are impacts that are a direct result of the proposed new fireworks display events and include the sources needed to operate the fireworks display events. Direct sources include operation of the fireworks display events, the delivery of the fireworks and related materials, and tugboat and barge activity related to launching the fireworks. Indirect effects would result from changes that would not occur without the proposed project and would not be directly caused by project operations. Indirect sources include changes to travel and circulation patterns on the regional roadway network from patrons while accessing the fireworks display event viewing locations and usage of facilities at the fireworks display event viewing locations (e.g., sources related to water consumption, electricity consumption, and cleaning product use at bathrooms).

The methodology used to estimate GHG emissions discussed below is the same that was used to estimate criteria pollutant and TAC emissions, as described in Section 4.2, *Air Quality and Health Risk*. In addition to the potential direct and indirect GHG and energy-related impacts associated with the proposed new fireworks display events, the impact analysis describes the effect of the proposed ordinance on existing fireworks display events in relation to GHG emissions and energy usage.

Background on Fireworks

A detailed summary of firework science is provided in Section 4.2, *Air Quality and Health Risk*. The majority of the effects are related to particulate matter (e.g., particulate matter 10 microns in diameter or less [PM10] and particulate matter 2.5 microns in diameter or less [PM2.5]) and not gases (e.g., CO₂). To estimate GHG emissions, firework-related CO₂ emissions were estimated to be 37 percent of the number of pounds of fireworks, based on emission factors for the potassium perchlorate propellant oxidizer fuel category within the open-burning and open-detonation model that was used in the health risk assessment (see Section 4.2). Emissions of non-CO₂ GHGs (N₂O and CH₄) are likely to be minor. For instance, studies found that detonation favored particulate forms of nitrogen species over gaseous forms, suggesting that oxygen released during combustion was quickly consumed by fuels in the pyrotechnics (Croteau et al. 2010; Radojevic 2003). Moreover, studies found that the sum of all gases comprise only 0.006 to 0.4 percent of the initial mass of fireworks (Croteau et al. 2010). Thus, the individual gases that are most prevalent in the atmosphere, such as N₂O and CH₄, would be even smaller. Based on this, gaseous non-CO₂ compounds, including N₂O and CH₄, from proposed new fireworks display events were assumed to be negligible and were not included in the analysis.

Tugboats and Barges

The assumptions used in relation to tugboat and barge activity for the proposed new fireworks display events are based on available information for existing fireworks display events that currently occur in San Diego Bay. The proposed new fireworks display events would launch fireworks from barges adjacent to and/or in the waters of southern San Diego Bay. Barges would be moved by tugboats to their designated locations along the Chula Vista and National City Bayfronts. The barges themselves result in no emissions, but the tugboats that move the barges do. Estimates of tugboat activity related to moving barges into place were based on the distance from the Pacific Tugboat Service offices to various locations throughout the Bay, assuming tugboats travel 6 mph, similar to the in-harbor tugboat activity data presented in the District's Emissions Inventory (District 2014). It was assumed that the tugboat's propulsion/main and auxiliary engines would be

active while moving the barges into place. Tugboat activity information related to holding the barges in place was based on data from the District, organizers, operators, and/or District tenants associated with fireworks display events and assumed that the barges would be active for a total of 4 hours. While holding barges in place, it was assumed that only the tugboat's auxiliary engines would be active, and the propulsion/main engines would remain off. It was assumed that the same activity that occurred when the barges were moved into place would occur once the fireworks display event is complete and the barges and tugboats return to the Pacific Tugboat Service offices.

A summary of proposed new fireworks display events that are anticipated to use tugboats and barges is presented in Table 3-2. As with existing fireworks display events, the barges would use tugboats that are in the 400–1,100 horsepower range. The District's Emissions Inventory (District 2014) was used to find the appropriate model year and engine size for tugboats that fit that horsepower range. To estimate tugboat emissions factors, it was assumed that the average tugboat in that range would be a 2004 model with an 804-horsepower main engine and a 101-horsepower auxiliary engine. Tugboat emissions factors are based on zero-hour emissions factors for model year 2004 tugboat engines, engine deterioration factors, fuel correction factors, useful life, and load factors for main propulsion and auxiliary tugboat engines as well as auxiliary barge engines, based on the calculation methodology from the Port of Long Beach Inventory (Port of Long Beach 2014). It was conservatively assumed that tugboats used during the proposed new fireworks display events would be fully deteriorated (i.e., at the end of their useful life). It is assumed that the methodology used to estimate emissions from tugboat and barge activity would be the same for existing and proposed new fireworks display events.

Firework Material Deliveries

The fireworks are manufactured primarily overseas and transported to the fireworks display events by truck from the port of entry. For purposes of analysis, it was assumed that firework materials would be trucked from the Ports of Los Angeles and/or Long Beach to the project area prior to or on the day of the proposed new fireworks display events. Emissions associated with delivery truck travel were estimated by assuming a single 236-mile, round-trip (118 miles one way), heavy-duty truck delivery for each event on the event day to and from the Port of Los Angeles. Exhaust emissions were based on emissions factors from ARB's EMFAC software for heavy-duty "T7 Single Construction" tractor-trailer trucks operating in San Diego County in 2017.

Visitor Traffic

As noted in the Transportation Assessment provided by Chen Ryan (Appendix J), regional traffic patterns related to the fireworks display events cannot be accurately analyzed because of the limitations of traffic modeling and the uniqueness of the events. Rather, the traffic analysis focuses on how transportation and parking demand patterns changed around San Diego Bay and the Imperial Beach Oceanfront during existing fireworks display events, including observed changes in vehicle, pedestrian, and bicycle volumes. These volumes were counted only on roadways and intersections that provide immediate access to viewing locations for the sample existing fireworks display events. In order to calculate visitor-related VMT, data would need to be collected that assess the number of visitors, how visitors arrived at the event, how far patrons traveled, routes taken, where patrons parked, and whether or not patrons were at the viewing locations specifically for the fireworks or for other reasons. As discussed in Section 4.2, *Air Quality and Health Risk*, because the proposed new fireworks display events along the National City and Chula Vista Bayfronts do not

currently occur, VMT data could not be collected. In discussing the air quality effects of visitor-related vehicle traffic, the analysis below provides a qualitative evaluation of background monitoring on both event and non-event days.

Studies indicate that particulate matter (PM) concentrations in most urban areas are generally attributed to vehicle traffic, and PM concentrations diminish with distance, particularly beyond 1,000 feet (ARB 2005). Background PM concentrations are collected at the following monitoring stations in the region: Alpine, Downtown (Beardsley Street), El Cajon, Escondido, Otay Mesa, Camp Pendleton, and San Ysidro (San Diego Air Pollution Control District 2016). Of these stations, the only station within proximity of the project area is the Downtown (Beardsley Street) station, which is near existing fireworks display events that occur in the northern parts of San Diego Bay, particularly the Big Bay Boom event. No monitoring stations are near the existing Fourth of July Imperial Beach Fireworks Show or near the proposed new National City and Chula Vista fireworks display events. Thus, the Fourth of July Imperial Beach Fireworks Show, which is similar in size to the proposed new National City and Chula Vista fireworks display events, cannot be used to estimate the effects of the proposed new shows because no monitoring station is close to the Fourth of July Imperial Beach Fireworks Show. However, even though the existing Big Bay Boom event is much larger and takes place in a different part of the Bay, the event does take place in proximity to a PM monitoring station (Downtown [Beardsley Street]), which can be used to qualitatively assess the potential impact of the proposed project's vehicle traffic based on hourly monitoring data near an existing display event.

Energy Consumption

The energy analysis evaluates potential impacts on energy consumption associated with fuel consumption from tugboats and barges as well as material deliveries associated with the proposed new fireworks display events. Fuel consumption associated with visitor motor vehicle travel is discussed qualitatively. Energy use was calculated by converting the GHG emissions predicted by the GHG analysis, using the rate of CO₂ emissions per gallon of combusted diesel, which was assumed to be 10.21 kilograms per gallon consumed (Climate Registry 2015). The estimated fuel consumption was converted to BTUs, assuming an energy intensity of 129,488 BTUs per gallon of diesel (Argonne 2015).

GHG Emissions Scenarios

Given the recent adoption of SB 32, as well as the scientific evidence that additional GHG reductions are needed through 2050 to stabilize CO₂ concentrations, impacts associated with the proposed project for both 2020 (AB 32) and the post-2020 period (SB 32) are considered in the analysis.⁷

⁷ The Association of Environmental Professionals' Climate Change Committee recommended in the *Beyond 2020: The Challenge of Greenhouse Gas Reduction Planning by Local Governments in California (Beyond 2020)* white paper, incorporated herein by reference, that CEQA analyses for most land use development projects can continue to rely on current thresholds for the immediate future but that general plans and long-term projects should consider "post-2020 emissions consistent with 'substantial progress' along a post-2020 reduction trajectory toward meeting the 2050 target." *Beyond 2020* further recommends that the "significance determination...should be based on consistency with 'substantial progress' along a post-2020 trajectory." This point is further clarified in the more recent *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California* white paper that stated "the best measure of whether an individual project is providing its fair share of GHG reductions or efficiency levels is whether that project is supporting 'substantial progress' toward the statewide reduction targets over time, not whether the project is meeting a milestone target many years in the future, such as for 2050."

4.4.4.2 Thresholds of Significance

Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes, GHGs emitted by countless sources worldwide accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, GHG impacts are inherently cumulative, and the analysis below is a cumulative impact analysis.

Greenhouse Gases

The State CEQA Guidelines do not indicate what amount of GHG emissions would constitute a significant impact on the environment. Instead, they authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence (State CEQA Guidelines Sections 15064.4(a) and 15064.7(c)).

A number of agencies throughout the state, including multiple air districts (not including the San Diego Air Pollution Control District), have drafted and/or adopted varying threshold approaches and guidelines for analyzing GHG emissions and climate change in CEQA documents. However, none of these are binding; they are only recommendations for consideration by CEQA lead agencies. Some commonly used threshold approaches include (1) consistency with a qualified GHG reduction strategy, (2) performance-based reductions,⁸ (3) numeric “bright-line” thresholds, and (4) efficiency-based thresholds.

Summary of “Newhall Ranch” Supreme Court Decision

The recent California Supreme Court decision in the *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company* (November 30, 2015, Case No. S217763) (hereafter *Newhall Ranch*), confirmed that the use of BAU analysis (i.e., 29 percent below business as usual), a performance-based approach, would be satisfactory. However, for a project-level analysis that uses ARB’s statewide BAU targets, substantial evidence must be presented to support the use of those targets for a particular project at a specific location. The court notes that this may require examination of the data behind the statewide model and adjustment to the levels of reduction from BAU used for project evaluation. To date, neither ARB nor any lead agencies have provided any guidance on how to adjust AB 32’s statewide BAU target for use at the project level.

The *Newhall Ranch* decision suggested several approaches for determining the significance of GHG emissions that may be appropriate as alternatives to the “percentage below BAU” approach but did not foreclose other methodologies that may be used by lead agencies. In any case, the decision affirmed that “thresholds only define the level at which an environmental effect ‘normally’ is considered significant; they do not relieve the lead agency of its duty to determine the significance of an impact independently.” Some of the court’s suggested approaches are introduced next and discussed more thoroughly in the context of the proposed project below.

⁸ Performance-based reductions include the “percentage below business-as-usual” threshold approach and are generally based solely on statewide targets, which have been used widely in the past. This approach was the subject of the *Newhall Ranch* case and presently is subject to uncertainty until the issues raised by the California Supreme Court ruling are resolved.

- **Consistency with a Qualified GHG Emissions Reduction Plan.** Use of a GHG emissions reduction plan, consistent with State CEQA Guidelines Section 15183.5, for a particular geographic area.
- **Quantitative Thresholds.** Use of a quantitative threshold (such as the Bay Area Air Quality Management District's (BAAQMD's) bright-line threshold).⁹
- **Compliance with Regulatory Programs.** This approach would include an assessment of the project's compliance with regulatory programs designed to reduce GHG emissions from particular activities (e.g., building efficiency, transportation, water usage). To the extent that a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by ARB or other state agencies, the lead agency could appropriately rely on their use to show that the project is reducing emissions consistent with AB 32 and, thus, that emissions are less than significant.
- **CEQA Streamlining.** Certain land use projects (such as residential, mixed-use, and transit priority projects) could use SB 375's expressed allowance for streamlining transportation impacts, based on the metropolitan regional SCS to streamline the analysis of emissions from cars and light trucks. Under any methodology, the *Newhall Ranch* case recognizes that if GHG emission impacts are still significant after adoption of all feasible mitigation measures and consideration of project alternatives, the lead agency may adopt a statement of overriding considerations with the appropriate findings.

Applicability of Available Thresholds

In light of the recent *Newhall Ranch* decision, the following section discusses each applicable approach and analyzes its specific applicability to the proposed project.

Performance-Based Reductions

Performance-based thresholds are based on a percentage reduction from a projected future condition. For example, reducing future BAU emissions by the AB 32 target of 29 percent (below 2020 BAU levels) through a combination of state measures, project design features (e.g., renewable energy), or mitigation is a performance-based threshold. The performance-based approach is based on the project's reduction in emissions from an unmitigated condition. Other lead agencies have adopted performance-based targets that are all tied to the AB 32 target of achieving 1990 levels by 2020, but the prescribed percentage reduction can vary, depending on the version of the Scoping Plan and targets therein that were used. For example, San Joaquin Valley Air Pollution Control District recommends a 29 percent reduction, which is based on the 2008 Scoping Plan, while Sacramento Metro Air Quality Management District previously recommended a 21.7 percent reduction from a projected no-action taken (NAT) scenario,¹⁰ which is based on the 2011 re-adopted Scoping Plan, whose emission targets vary slightly from 2008 to account for revised estimates for future fuel and energy demand. With the *Newhall Ranch* decision, relating a given project to the achievement of state reduction targets most likely requires adjustments to ARB's statewide BAU

⁹ Note that while *Newhall Ranch* did not explicitly discuss efficiency-based thresholds; they are a form of quantitative threshold and therefore are included in the *Applicability of Available Thresholds* discussion herein.

¹⁰ The NAT scenario does not include any state regulations designed to reduce GHG emissions, including improvements to the Title 24 standards, RPS, LCFS, or Pavley rules.

model, not only to isolate new development emissions but also to consider unique geographic conditions that would be required to use the BAU performance-based methodology for a specific project. To date, this type of adjustment to the statewide BAU target has not been formulated and, therefore, is not appropriate for the project's analysis. The primary value of a performance-based target, as indicated in *Newhall Ranch*, is that it can provide a scenario by which to evaluate the effectiveness of a project's efficiency and conservation measures to reduce GHG emissions. As such, future year targets can be used to benchmark performance, using either statewide or regional emission targets, to determine a project's fair share of mitigation.

Compliance with a Qualified GHG Reduction Plan

Under this approach, a qualified plan may be used in the cumulative impact analysis for later projects when the analysis "identifies those requirements specified in the plan that apply to the project." For a GHG reduction plan to be considered a qualified plan, it must meet certain criteria established under State CEQA Guidelines Section 15183.5 (b), also specified above. Consequently, if a project is consistent with a local CAP that was created to meet AB 32's GHG targets, then the project would be considered consistent with statewide GHG reduction goals for 2020. Additionally, if a CAP was adopted that was consistent with the state's overall goals for post-2020, including the downward trajectory, as clarified in EO B-30-15 and EO S-03-05, and a project is consistent with that CAP, it would be considered consistent with the state's post-2020 GHG emissions strategy. Section 15183.5 also specifies that the project's CEQA analysis "must identify those requirements specified in the plan that apply to the project and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project." The District adopted a CAP in 2013 that sets forth GHG 2020 and 2035 reduction targets and reduction measures to achieve these targets.

For 2020, the CAP meets the requirements of State CEQA Guidelines Section 15183.5, as specified in Appendix A of the CAP. The CAP quantifies existing and projected GHG emissions by sector¹¹ and activity type¹² and identifies and analyzes GHG emissions reductions from the same time period within the District. The CAP establishes a 10 percent reduction goal for the District for 2020; below that goal, the contribution of GHG emissions from activities covered by the plan would not be cumulatively considerable. The GHG emissions reduction goal and measures also serve as the CAP's performance standards, with accompanying reduction targets or performance standards across six categories.¹³ The CAP also specifies measures that, if implemented on a project-by-project basis, collectively achieve the GHG emissions reduction goals for the District.¹⁴ The plan and its effectiveness are regularly monitored through a process known as *adaptive management* to ensure that it is achieving the GHG emissions reduction goals.¹⁵ The CAP was adopted through a lengthy public process, and a CEQA exemption was adopted by the District (with an initial study) prior to the

¹¹ Sectors include electricity, natural gas, on-road transportation, off-road equipment, water usage and wastewater, and waste.

¹² Activities include industrial, shipbuilding, lodging, ocean-going vessels, recreational boating, other terminal activities, port operations, the convention center, and other activities within the District.

¹³ Categories include energy efficiency, alternative energy, transportation and land use, water, waste, and miscellaneous.

¹⁴ Implementation of the measures and performance standards is specified in Appendices A and F of the CAP as well as Board of Port Commissioners Policy 750, which is incorporated herein by reference.

¹⁵ Board of Port Commissioners Policy 750.

CAP's adoption. For the proposed project, consistency with the CAP is appropriate for 2020 to determine whether significant GHG emissions impacts would result. However, because the CAP does not include post-2020 reduction quantification, consistency with the CAP is not an appropriate threshold of significance for post-2020 GHG emissions.

Quantitative Thresholds

Numerical Bright-Line

In general, numerical bright-line thresholds identify the point at which additional analysis and mitigation of project-related GHG emissions impacts is necessary. Currently, bright-line thresholds have been developed for commercial projects, residential projects, and stationary sources. Commercial and residential bright-line thresholds are typically based on a market capture rate or a gap analysis,¹⁶ which is tied back to AB 32 reduction targets (1990 levels by 2020).¹⁷ These bright-line thresholds reflect local or regional land use conditions, particularly residential and commercial density and access to transit. For example, the BAAQMD's bright-line threshold of 1,100 MTCO_{2e} captures land use conditions present in the Bay Area at the time of analysis and does not necessarily reflect conditions in other areas of the state, including within the District, that may display varying land use patterns and densities. A stationary source bright-line threshold of 10,000 MTCO_{2e} has been adopted by multiple air districts and other agencies as part of the permitting process, and the South Coast Air Quality Management District (SCAQMD) currently recommends use of the same threshold for permitted source projects when SCAQMD is the lead agency.

A numerical bright-line value, based solely on District-wide projects, does not yet exist. Moreover, no bright-line threshold has been formally adopted by an air district or other lead agencies for use in the San Diego region. Various bright-line numerical threshold have been drafted, proposed, or adopted throughout the state, and these vary greatly by agency and by purpose. For example, numerical thresholds range from the 900 MTCO_{2e} screening level referenced in the California Air Pollution Control Officers Association (CAPCOA) white paper (CAPCOA 2008), to the 1,100 MTCO_{2e} adopted by BAAQMD (BAAQMD 2011), to the 10,000 MTCO_{2e} stationary bright-line threshold adopted by BAAQMD (BAAQMD 2011) and Sacramento Metropolitan Air Quality Management District (SMAQMD) (SMAQMD 2016), to the 100,000-ton CO_{2e} level adopted by the Mojave Desert Air Quality Management District, based on the federal permit triggers (MDAQMD 2016). CAPCOA's 900 MTCO_{2e} screening level is the lowest numerical threshold drafted, recommended, or adopted in the state.

The 900 MTCO_{2e} screening level is used as a theoretical approach to identify projects that require further analysis and potential mitigation. The screening level identifies projects that would result in sufficiently low GHG emissions that would be less than cumulatively considerable without mitigation. This 900 MTCO_{2e} screening-level threshold was not devised to include emissions associated with larger goods movement projects or industrial processes that are typically associated with larger District projects but may be appropriate for small maritime projects or other land use types, including small visitor-serving commercial projects or intermittent uses. Furthermore, the

¹⁶ The gap analysis demonstrates the reductions needed at the residential and commercial land use levels to achieve state targets. Capture is the process of estimating the portion of projects that would result in emissions that would exceed a significance threshold and would be subject to mitigation.

¹⁷ The AB 32 Scoping Plan identifies specific measures to reduce GHG emissions to 1990 levels by 2020.

stationary bright-line threshold of 10,000 MTCO₂e is not appropriate for the proposed project because the project is not a typical industrial stationary source with a single point of emissions (e.g., a single exhaust pipe or release point) but may be appropriate for stationary-source activities (e.g., boilers). Because the proposed project is not an industrial stationary-source project, established industrial bright-line numerical thresholds are not appropriate and are not used in the analysis. However, the 900 MTCO₂e screening-level threshold is considered, as discussed below.

Efficiency-Based Threshold

Another type of quantitative threshold is an efficiency-based threshold. Efficiency-based thresholds represent the GHG efficiency needed for development to achieve California's GHG emissions target established under AB 32. Although the *Newhall Ranch* decision did not specifically recommend the efficiency-based approach, the ruling did note that numerical bright-line threshold approaches may be appropriate for determining significance of GHG emissions and emphasizing the consideration of GHG efficiency. Efficiency-based thresholds are typically calculated by dividing emissions associated with residential and commercial uses (also termed the "land use sector" in the Scoping Plan) within the state (or a certain geographic area) by the sum of jobs and residents within the same geography. The sum of jobs and residents is called the "service population." A project's service population is defined as the people who work and live within the project site. Because typical efficiency-based thresholds are based on the land use sector (residential and commercial uses) and account only for land use-related emissions and residential population and employment, they may be misleading to use for industrial uses, recreational projects, stationary-source projects,¹⁸ or marine terminal projects¹⁹ because these types of uses are specifically excluded from the land use sectors and typically do not directly propose housing or result in population growth. Therefore, no threshold has been adopted or proposed to date that would address recreational and intermittent types of projects. Therefore, the efficiency-based methodology is not used for the proposed project.

Compliance with Regulatory Programs

Another approach for determining whether a project would result in significant GHG emissions impacts is determining whether a proposed project is in compliance with regulatory programs designed to reduce GHG emissions from particular activities. To the extent a project complies with or exceeds those programs adopted by ARB or other state agencies, a lead agency could rely on this compliance to show less-than-significant impacts. However, such analysis is applicable only within the area governed by the regulations. For example, consistency with regulations that address building efficiency would not suffice when determining that the project would not have significant GHG emissions from transportation. The proposed project's compliance with regulatory programs adopted by ARB or other state agencies is used, in part, for the proposed project's GHG emissions analysis.

¹⁸ See the Bay Area Air Quality Management District's October 2009 Threshold Options and Justification Report for additional evidence: <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>.

¹⁹ An example of appropriate use of an efficiency-based threshold at the port would be for a large visitor-serving commercial project (i.e., has a jobs-based component consistent with the efficiency-based threshold) that accommodates population and employment growth in a way that is consistent with the emissions limit established under AB 32.

Newhall Ranch specifically mentions consistency with both SCS (per SB 375) and AB 32, which are discussed below. Also, other recent case law mentions the need to demonstrate consistency with the long-term targets in B-30-15 (2030) and S-03-05 (2050), which are also addressed below.

- **Compliance/Consistency with AB 32 (2020).** A lead agency could also assess a project's consistency with AB 32 in whole or part by looking to compliance with regulatory programs designed to implement AB 32. To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by ARB or other state agencies, a lead agency could appropriately rely on their use to show compliance with performance-based standards adopted to fulfill the statewide goal for reducing GHG emissions.
- **Consistency with EO B-30-15 (2030) and EO S-03-05 (2050) Targets and Planning.** A lead agency could also assess a project's consistency with the targets in the EOs and with current planning for the post-2020 period or substantial progress toward these goals over time. At present, the regulatory framework to achieve the 2030 target is in its infancy and is not sufficiently robust to support a consistency argument, but consistency with the targets is nevertheless a potential approach.

CEQA Streamlining

The *Newhall Ranch* ruling affirmed that CEQA expressly allows streamlining under SB 375 of certain residential, commercial, and mixed-use projects that are consistent with the limits and policies specified in an applicable SCS. The ruling pointed out that a qualifying project need not additionally analyze GHG emissions from cars and light trucks. In San Diego, the SCS is contained within SANDAG's recently adopted 2050 RTP/SCS (SANDAG 2015). Projects eligible for this streamlining can "tier" off the RTP/SCS EIR for CEQA purposes. However, the proposed project would not be eligible for streamlined review because it does not meet the qualifying criteria defined in SB 375.

Post-2020 Thresholds

Although the *Newhall Ranch* decision did not rule on whether a post-2020 climate change analysis is required for CEQA documents, the decision mentioned that consistency with 2020 goals will become a less definitive guide over time, and consistency with long-term emission reduction targets may be needed in the near future. The state recently adopted SB 32, which adopts the interim reduction target to reduce GHG emissions by 40 percent below 1990 levels by 2030 in EO B-30-15. Further, EO S-03-05 has set forth a long-term reduction target to reduce GHG emissions to 80 percent below 1990 levels by 2050. ARB released its Draft 2017 Scoping Plan Update and is working on the 2030 Scoping Plan, which outlines the state's proposed framework for meeting the 2030 target set by SB 32. The Draft 2017 Scoping Plan Update is currently out for public review and is therefore not yet adopted. Thus, there is no current adopted statewide GHG emissions reduction plan or framework thereof that extends beyond 2020.

The Draft 2017 Scoping Plan Update, along with previous work by the state and the District, has shown the District's and state's interest in adopting regulatory programs and frameworks designed to support meeting statewide post-2020 reduction goals. Meeting the ambitious targets in SB 32 and EO S-03-05 will require substantial effort at the state, regional, and local levels. Lacking an adopted post-2020 plan, the Association of Environmental Professionals (AEP) (2015, 2016) recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of state climate change legislation and assess their "substantial progress" toward achieving longer-term reduction targets identified in available plans (e.g., CAPs), legislation, or executive orders. The best measure is thus

substantial progress toward long-range targets and not necessarily meeting milestone targets many years in the future, such as for 2050. Moreover, although there are no proposed or adopted significance thresholds for analyzing post-2020 emissions for development projects in California, the updated Scoping Plan does recommend that local governments aim to achieve a community-wide goal of no more than 6 MTCO_{2e} per capita by 2030 and no more than 2 MTCO_{2e} per capita by 2050. Although these thresholds are neither adopted nor explicitly relevant to the proposed project, this does indicate ARB's overall intent of highlighting and promoting efficiency statewide. However, there are no thresholds that are explicitly applicable to fireworks display events or other intermittent and infrequent recreational events.

Threshold Approach

As discussed above, there are multiple potential thresholds and methodologies for evaluating project-level GHG emissions consistent with CEQA, depending on the circumstances of a given project. Although efforts at framing GHG significance issues have not yet coalesced into any widely accepted set of numerical significance thresholds across the state and within the region, a range of alternative approaches does exist.

The proposed new fireworks display events could occur as soon summer 2017. However, 2020 is an obvious GHG benchmark year that aligns with the timeline employed in development of the bright-line threshold levels and set forth in both AB 32 and the District's CAP. Use of 2020 as a target or milestone year for GHG emissions reductions per AB 32 as a significance criterion is widely employed and was further validated in *Newhall Ranch* for projects with 2020 or pre-2020 timelines (AEP 2016). Beyond 2020, the next statewide target or milestone year is 2030, as originally set by EO B-30-15, adopted in SB 32, and addressed in recent ARB movement on the Scoping Plan update (ARB 2016b). The proposed project would remain in operation well beyond 2020, and given the recent adoption of SB 32 and court direction regarding EO S-03-05, this analysis assumes that the post-2020 target or milestone year is 2050.

Based on the available threshold concepts recommended by air districts or other lead agencies and recent case law, the thresholds of significance that will be applied to the proposed project's GHG emissions for both the 2020 and post-2020 periods are as follows:

- For 2020, impacts from the proposed project's GHG emissions would be considered less than significant if the proposed project is found to be:
 - (1) Below relevant bright-line thresholds, including the 900 MTCO_{2e} screening level;
 - (2) Consistent with the District CAP (a qualified GHG reduction plan), including the reduction targets and reduction measures specified therein; and
 - (3) Consistent with regulatory programs outlined in the Scoping Plan and adopted by ARB or other California agencies.

The analysis for 2020 is both quantitative with respect to the bright-line threshold, CAP, and AB 32 consistency and qualitative with respect to compliance with the CAP's measures and regulatory programs outlined in the Scoping Plan and adopted by ARB or other California agencies. The analysis for consistency with regulatory programs applies only to the individual area addressed by the regulatory program. If the proposed project is determined to be (1) consistent with relevant bright-line threshold; (2) consistent with the District's CAP, including reduction targets therein (see Table 4.4-4); and (3) consistent with regulatory programs adopted by ARB or other agencies to

reduce GHG emissions, then the proposed project's cumulative contribution of GHG emissions would be considered less than significant for 2020. Conversely, if the proposed project is determined to be inconsistent with the relevant bright-line threshold or inconsistent with measures listed in the CAP, or is inconsistent with or will interfere with or obstruct implementation of regulatory programs adopted by ARB or other state agencies to reduce GHG emissions, then the proposed project's cumulative contribution of GHG emissions would be considered significant, and feasible mitigation measures would be required.

Table 4.4-4. Estimate of Annual Greenhouse Gas Emissions during Existing Fireworks Display Events (metric tons per year and per event)

Emission Source	Project MTCO_{2e}
Fourth of July	
<i>Fireworks</i>	
Big Bay Boom	0.90
Glorietta Bay	0.07
Imperial Beach	0.08
<i>Tugboats</i>	
Big Bay Boom	1.99
Glorietta Bay	0.31
Imperial Beach	—
<i>Deliveries</i>	
All Shows	1.20
Total Fourth of July	4.55
Non-Fourth of July	
<i>Fireworks</i>	
Symphony Summer Pops	0.25
Our Lady of Rosary Church	< 0.01
U.S.S. Midway	0.30
NASSCO	0.07
<i>Tugboats</i>	
Symphony Summer Pops	8.14
Our Lady of the Rosary Church	—
U.S.S. Midway	10.49
NASSCO	—
<i>Deliveries</i>	
All Shows	18.42
Total Non-Fourth of July	37.68
Total for all existing fireworks display events	42.22
	<i>MTCO_{2e} – Fireworks</i>
	1.66
	<i>MTCO_{2e} – Tugboats</i>
	20.93
	<i>MTCO_{2e} – Deliveries</i>
	19.63

Source: Appendix E.

“—” denotes that no tugboats are used during these shows. Totals may not add up exactly because of rounding.

As mentioned above, the 900 MTCO_{2e} screening level is lowest numerical threshold drafted, recommended, or adopted in the state and serves as a conservative screening criterion for determining which projects require further analysis and identification of project design features or potential mitigation measures with regard to GHG emissions. No threshold has been adopted specific to analyzing fireworks display events. This 900 MTCO_{2e} level was developed to provide a screening criterion for small land use development projects (e.g., residences, offices) that include

land use–related emissions sources (e.g., passenger vehicles, building energy). This screening criterion can be used to provide a tool for comparing proposed project-related emissions to the lowest and most conservative threshold currently recommended in the state for analyzing typical land use projects. Additionally, the mere fact that a project exceeds a bright-line significance criterion does not necessarily indicate that the project would generate a significant unavoidable impact. In the same sense, the mere fact that a project would not exceed a bright-line significance criterion does not necessarily indicate that the project would result in a less-than-significant impact.

These bright-line thresholds are screening criteria, and the analysis must be combined with further discussion in substantiating significance conclusions. As discussed above, use of the bright-line screening levels is the first step in discussing the significance of proposed project emissions.

The thresholds of significance that will be applied to the proposed project’s GHG emissions for the post-2020 period are as follows:

- For the post-2020 period, impacts from the proposed project’s GHG emissions would be less than significant if the proposed project is found to be:
 - (1) Below relevant bright-line thresholds, including the 900 MTCO_{2e} screening level;
 - (2) Consistent with the state’s overall reduction targets (including SB 32) for post-2020; and
 - (3) Consistent with regulatory programs adopted by ARB or other California agencies for post-2020 GHG emissions.²⁰

Based on the available threshold concepts recommended by expert agencies and the “substantial progress” approach, the analysis for the post-2020 time period is both quantitative with respect to consistency with bright-line threshold levels and long-term reduction targets and qualitative with respect to consistency with the measures and regulatory programs outlined, adopted, or proposed by ARB or other California agencies. Proposed project emissions are compared to relevant threshold levels and in the context of the state’s overall reduction targets for the post-2020 period. The analysis for consistency with regulatory programs applies only to the individual area addressed by the regulatory program. In keeping with the guidance provided in *Newhall Ranch* that the extent to which a project’s design features comply with or exceed the regulations outlined in the Scoping Plan or by state agencies, a lead agency could appropriately rely on showing compliance with performance-based standards (e.g., future reduction targets) adopted to fulfill a statewide plan for the reduction or mitigation of GHG emissions.

Note that the 900 MTCO_{2e} screening threshold discussed above is based on consistency with the AB 32 reduction target. Although the 900 MTCO_{2e} screening threshold is not intended to be used for determining the consistency of emissions with post-2020 reduction targets, including SB 32, it can serve as a proxy for providing a valuable quantitative screening level to determine whether project emissions would be low enough to make the possibility of generating a level of GHGs that would be cumulatively considerable highly unlikely.

Climate Change

Recent court cases have concluded that an EIR need not evaluate the environment’s effect on a

²⁰ Because the CAP does not yet quantify reductions for 2035, it is not relied on for the post-2020 analysis.

project, often referred to as “Reverse CEQA.”²¹ In one case that discussed the issue of SLR directly, the California Second District Court of Appeal held that, although an EIR must analyze the environmental effects that may result from a project, an EIR is not required to examine the effects of the environment, such as SLR, on a project (see *Ballona Wetlands Land Trust v. City of Los Angeles*, 201 Cal. App. 4th 455). In its decision, the court called into question the validity of portions of the State CEQA Guidelines that require consideration of impacts of the environment on a project. The *Ballona* decision potentially eliminates the need for lead agencies to consider the impacts of climate change on proposed projects. The *Ballona* decision did not, however, call into question the State CEQA Guidelines amendments enacted in 2010 that address the analysis and mitigation of the potential impacts on the environment associated with a project’s GHG emissions.

Although the California Supreme Court denied review of the *Ballona* decision,²² the issue of the environment’s effect on a project was raised once again in *California Building Industry Association v. Bay Area Quality Management District*, Supreme Court Case No. S213478. The California Supreme Court ruled on December 17, 2015, that CEQA does not direct agencies to analyze the environment’s effects on a project unless the project would exacerbate existing environmental hazards or certain specific exemptions apply. However, the project sites are within the Coastal Zone and, pursuant to EO S-13-08, the California Coastal Commission considers the potential impacts of SLR on a proposed project in determining consistency with the Coastal Act. Accordingly, the California Coastal Commission adopted SLR policy guidance in 2015 that provides an overview of the best available science on SLR and a recommended methodology for addressing SLR in California Coastal Commission planning and regulatory actions (California Coastal Commission 2015).

Specifically regarding SLR, the San Diego Bay Vulnerability Assessment conducted by ICLEI - Local Governments for Sustainability found that the greatest concern with respect to SLR will be an increase in the nature of flooding that a region already experiences from waves, storm surge, El Niño events, and exceptionally high tides. Furthermore, starting around mid-century, San Diego Bay may become more susceptible to regularly occurring inundation of certain locations and assets, some of which are being planned and built today. As a result, this longer-term risk of inundation should be a concern in today’s decision-making. The most vulnerable sectors in the community include stormwater management, wastewater collection, shoreline parks and public access, transportation facilities, commercial buildings, and ecosystems (ICLEI 2012).

Accordingly, a discussion of the issue has been provided below using the following criterion:

- Would the project place people or structures at substantial risk of harm due to predicted climate change effects, particularly SLR?

Energy Consumption

Based on State CEQA Guidelines Appendix F, environmental considerations may include those listed below.

²¹ See *South Orange County Wastewater Authority v. City of Dana Point* (2011), 196 Cal.App.4th 1604; *Ballona Wetlands Land Trust v. City of Los Angeles* (2011), 201 Cal.App.4th 455; *Baird v. County of Contra Costa* (1995), 32 Cal.App.4th 1464, 1468 (Baird); *City of Long Beach v. Los Angeles Unified School Dist.* (2009), 176 Cal.App.4th 889 (Long Beach).

²² On March 21, 2012, the California Supreme Court denied case review and depublication requests submitted by several environmental organizations.

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project, including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak- and base-period demands for electricity and other forms of energy;
- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; and
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

The State CEQA Guidelines recommend that the discussion of applicable energy impacts focus on whether the project would result in the wasteful, inefficient, or unnecessary consumption of energy because this may constitute an adverse effect on energy resources. Efficiency projects that incorporate conservation measures to avoid wasteful energy usage facilitate long-term energy planning and avoid the need for unplanned or additional energy capacity. Accordingly, based on the criteria outlined in State CEQA Guidelines Appendix F, the proposed project would cause significant impacts related to energy if it would lead to a wasteful, inefficient, and unnecessary usage of direct or indirect energy.

As discussed in Section 4.2.3, energy legislation, policies, and standards adopted by California and local governments were enacted and promulgated for the purpose of reducing energy consumption and improving efficiency (i.e., reducing wasteful and inefficient use of energy). Therefore, for the purposes of this analysis, *wasteful* and *inefficient* are defined as circumstances in which the project would conflict with applicable state or local energy legislation, policies, and standards. Accordingly, if the project were to conflict with legislation, policies, or standards designed to avoid wasteful and inefficient energy usage, it would result in a significant impact related to energy resources and conservation. Accordingly, a discussion of the issue has been provided below using the following criteria:

- Would the project result in the wasteful, inefficient, or unnecessary use of energy?
- Would the project require or result in the construction of new energy system infrastructure or the expansion of existing infrastructure, the construction of which could cause significant environmental effects?

4.4.4.3 Project Impacts and Mitigation Measures

Threshold 1: For the years up to and including 2020, the project (1) would be below the relevant bright-line threshold (2) would be consistent with the District CAP, and (3) would be in compliance with plans, policies, and regulatory programs outlined in the Scoping Plan and adopted by ARB or other California agencies for the purpose of reducing the emissions of GHGs.

Impact Discussion

The four proposed new fireworks display events have the potential to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The proposed new displays would result in GHG emissions associated with fireworks detonation, tugboat and barge activity, and material deliveries. Further, viewers accessing the Bayfronts may change motor vehicle travel patterns on fireworks display event days; this is discussed qualitatively below.

A number of existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants occur year-round, with the greatest number of displays in the summer months from July to September. These existing fireworks display events result in GHG emissions from sources that are directly or indirectly related to the displays, including fireworks detonation, tugboat and barge activity, material deliveries and indirectly related to visitor motor vehicle travel. The estimate of existing fireworks emissions serves as the basis for estimating fireworks emissions associated with the proposed new displays; emissions are scaled by the number of pounds per display. The methodology for delivery trucks and tugboats is based on existing conditions; there is one tugboat per barge, and the tugboat is active for 4 hours per display. A detailed description of each of these sources and associated emissions modeling are provided in Section 4.4.4.1.

Because the sum of all GHG emissions is analyzed on an annual time scale, the exact timing of the displays is not of concern; instead, the GHG emissions and climate change analysis is most concerned with the sum of all emissions over the course of a year and how those emissions would comply with existing District-wide and statewide plans, policies, and programs adopted for the purpose of reducing the emissions of GHGs.

Table 4.4-4, above, presents annual GHG emissions (metric tons per year) associated with all existing fireworks display events over the course of a year. As shown in Table 4.4-4, the sum of all existing fireworks display events results in an estimated 42 MTCO_{2e}, most of which (21 MTCO_{2e} from tugboats, 20 MTCO_{2e} from trucks) is emitted from diesel-related sources. Emissions from the fireworks themselves are low because fireworks-related GHG emissions factors are low. The majority of fireworks-related emissions under existing conditions are therefore already accounted for in the District's CAP. For example, the tugboat annual operating hours shown in the District's Maritime Emissions Inventory (District 2014) and the CAP (District 2013) include tugboat and barge activity associated with the current fireworks display events because the tugboat activity is performed by Pacific Tugboat Service, which is an existing District tenant. Although the CAP does not include fireworks and delivery emissions, these emissions are small and amount to an estimated 1.66 and 19.63 MTCO_{2e} per year under existing conditions, respectively. Furthermore, as discussed in Section 4.4.4.1 and in detail in Section 4.2, *Air Quality and Health Risk*, regional traffic patterns

cannot be accurately analyzed for the fireworks display events. However, it is unlikely that vehicle traffic related to the proposed new Fourth of July and non-Fourth of July fireworks display events would result in more emissions than the actual fireworks display events, which themselves are minor. As discussed in Section 4.2, *Air Quality and Health Risk*, based on a comparison of background air monitoring data on both event and non-event days, vehicular traffic on the fireworks display event day would most likely be lower than on a typical non-event day. Thus, GHG emissions associated with vehicle traffic are expected to be far below relevant thresholds; consistent with the District CAP, including the reduction targets and reduction measures specified therein; and consistent with regulatory programs outlined in the Scoping Plan and adopted by ARB or other California agencies.

Proposed New Fireworks Display Events

The proposed project includes four new fireworks display events per year in San Diego Bay that would be governed by the proposed ordinance. It is anticipated that both the National City and Chula Vista Bayfronts would host a Fourth of July fireworks display event, while the Chula Vista Bayfront would host two other non-Fourth of July fireworks display events throughout the year.

Compliance with Bright-Line Threshold

Table 4.4-5 presents annual GHG emissions (metric tons per year) associated with the proposed new fireworks display events. As shown in Table 4.4-5, annual emissions from all proposed new fireworks display events would be minor (less than 7 MTCO_{2e}), and the magnitude would be below the relevant screening threshold, both individually and when summed over the entire year.

Similar to existing fireworks display events, emissions from the fireworks themselves would be low because the primary source of emissions would be the combustion of tugboat and truck fuel. As discussed under Threshold 2 in Section 4.2, *Air Quality and Health Risk*, background emissions on the display day would be lower than they would be on the weekday “control” day.” Thus, vehicular traffic on the display day would most likely be lower than it would be on a typical day and therefore unlikely to result in emissions that would not be in compliance with GHG reduction plans, policies, and regulations.

The proposed project would not propose any construction or permanent sources of emissions. The proposed new fireworks display events are expected to remain in operation through 2050. Fireworks-related emissions would be low and, most likely, would not change in the future. Tugboat-related emissions would also be low and, most likely, would not change over the short term, even as the tugboat population that services vessels and barges in the Bay is retrofitted or remanufactured. However, over the long term, the state and District will move toward zero and near-zero technologies such as biodiesel, hybrid-electric, and liquefied natural gas technologies, which would reduce emissions from project-related tugboat uses. Each of these technologies would reduce GHG emissions but, in the case of biodiesel, might increase nitrogen oxides (NO_x). Therefore, as zero and near-zero tugboat technologies reduce emissions, project-related GHG emissions would decline through the life of the project. GHG emissions would begin to trend downward, consistent with the need for deeper reductions post-2020, as promulgated in SB 32.

Table 4.4-5. Estimate of Annual Greenhouse Gas Emissions during Proposed New Fireworks Display Events (metric tons per year and per event)

Emission Source	Project MTCO_{2e}
Fourth of July	
<i>Fireworks</i>	
Chula Vista Bayfront	0.08
National City Bayfront	0.08
<i>Tugboats</i>	
Chula Vista Bayfront	0.86
National City Bayfront	0.66
<i>Deliveries</i>	
All Shows	0.80
Total Fourth of July	2.48
Non-Fourth of July	
<i>Fireworks</i>	
Chula Vista Bayfront	0.02
<i>Tugboats</i>	
Chula Vista Bayfront	1.73
<i>Deliveries</i>	
Both Shows	2.4
Total Non-Fourth of July	4.15
Total for all new fireworks display events	6.63
	<i>MTCO_{2e} – Fireworks</i>
	0.17
	<i>MTCO_{2e} – Tugboats</i>
	3.25
	<i>MTCO_{2e} – Deliveries</i>
	3.20

Source: Appendix E.
Totals may not add up exactly because of rounding.

Consistency with CAP

As mentioned above, the proposed project consists of adding four new fireworks display events per year within San Diego Bay. Emissions from the proposed new displays would benefit from actions already undertaken by the District to reduce emissions from maritime sources, including retrofitting tugboats with cleaner technologies that, although do not reduce GHG emissions, reduce criteria pollutant and TAC emissions. The District's CAP does include numerous measures to reduce GHG emissions from District operations, including both maritime and landside sources. The CAP takes into account growth in District-wide activity from all sectors over time. For example, cargo associated with the maritime sector, which includes tugboat activity, is assumed to increase 3 percent annually through 2020 and 3.2 percent annually between 2020 and 2030. As discussed below, the proposed ordinance would ensure that the project would be consistent with the CAP and the targets and measures therein. Moreover, emissions associated with the proposed new fireworks display events would be minor and substantially below the chosen bright-line threshold level and any bright-line threshold level drafted, adopted, or considered in this state. Thus, project emissions

would not alter current District trajectory toward meeting its 2020 GHG reduction targets. For perspective, the 6.63 MTCO_{2e} associated with the proposed new fireworks display events is equivalent to the emissions from about 1.4 passenger vehicles driven for 1 year or the electricity usage of 0.7 home for 1 year. Impacts associated with GHG emissions through 2020 would be less than significant.

The proposed project's consistency with applicable CAP measures is discussed in Table 4.4-6. As shown in Table 4.4-6, the proposed project would implement applicable measures in the CAP, which would be enforced through compliance with the proposed ordinance.

Table 4.4-6. Project Consistency with Applicable Port CAP Measures for 2020

No.	Measure Description	Project Consistency Analysis
TA3	Implement emissions reduction strategies at loading docks through electrification of docks or idling reduction systems for use while at loading docks.	Consistent. The proposed ordinance includes a condition of approval that requires all commercial delivery vehicles associated with existing and proposed new shows to limit idling times to 3 minutes, which is beyond that required by state law.
TR3	Vehicle Idling: Enforce state idling laws for commercial vehicles, including delivery and construction vehicles.	Consistent. The proposed ordinance includes a condition of approval that requires all commercial delivery vehicles associated with existing and proposed new shows to limit idling times to 3 minutes, which is beyond that required by state law.

Source: District 2013.

Notes:

TA: Transportation and Land Use CAP Measures – Alternative-Fuel Vehicles;; TR: Roadway System Management.

Consistency with Regulations and Regulatory Programs Adopted by ARB or Other State Agencies

As shown in Table 4.4-7, the proposed new fireworks display events would be consistent with several measures from the Scoping Plan as well as other measures being implemented by EPA and ARB (e.g., Phase 2 trucks).

Table 4.4-7. Project Consistency with AB 32 Scoping Plan and Other ARB Measures for 2020

No.	Measure Description	Project Consistency Analysis
Scoping Plan Measures		
T-1	Advanced Clean Cars	Consistent. State program that requires no action at the local or project level. Benefits related to visitation car travel will be realized.
T-2	Low-Carbon Fuel Standard	Consistent. State program that requires no action at the local or project level. Benefits will be realized.
T-4	Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low Friction Oil 4. Solar Reflective Automotive Paint and Window Glazing	Consistent. State program that requires no action at the local or project level. Benefits related to visitation car and delivery truck travel will be realized.
T-7	Heavy-Duty Vehicle GHG Emissions Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty GHG Standards for New Vehicles and Engines (Phase I)	Consistent. State and federal programs that require no action at the local or project level. Benefits related to delivery truck travel will be realized.
-	Pavley (AB 1493)	Consistent. See T-1 and T-2. State program that requires no action at the local or project level. Benefits related to project-related visitation car travel will be realized.
-	Heavy-Duty (Tractor-Trailer) GHG Regulation and Phase 2 Truck Standards	Consistent. See T-7. State and federal programs that require no action at the local or project level. Benefits related to project-related delivery truck travel will be realized.
-	OGV Fuel Switch Regulation (to 0.1% sulfur fuel)	Consistent. See T-6. State program that requires 0.1% sulfur fuel use for all vessel activity within California's regulated waters (i.e., within 24 nautical miles of shore), including project-related tugboats. Implementation started January 1, 2014.
Source: ARB 2008; ARB 2014.		
Notes:		
T = Transportation Measures; E = Electricity Measures; W = Water Measures; H = High GWP Measures		

Consistency with Other Regulations

The Clean Air Program, one of six key areas addressed by the District's Green Port Program, focuses on initiatives to reduce air pollution from District operations and includes various strategies that the District is employing to reduce GHG emissions from its largest sources, including shore power, truck replacement/retrofits, replacement/retrofits of CHE, and the voluntary VSR program. The District, through its Green Port Program, will continue to implement actions to reduce GHG emissions in the future. The project would implement the relevant Green Port Program and Clean Air Program control measures, including drayage truck replacement and retrofits, replacement and retrofits of CHE, VSR, and shore power, as well as through implementation of the CAP. The proposed project would not involve goods movement and does not propose any permanent structures or emissions

sources. The proposed project is consistent with the District's Green Port and Clean Air Programs because the proposed new fireworks display events would comply with current and potential future ARB regulations developed and included as part of the Green Port Program and Clean Air Program and assumed in the CAP, as described above in Table 4.4-7. Therefore, the proposed project would be consistent with both the overarching Green Port Program and the more specific Clean Air Program as well as statewide actions and plans to reduce GHG emission from all sectors of the economy.

Impact Determination through 2020

The state is well on its way to reaching 2020 targets and expected to meet the AB 32 targets in 2020 with recently adopted state regulations. Although new projects may add emissions, overall District and California GHG emissions need to be on a downward trend. The proposed project would not involve goods movement and does not propose any permanent structures or emissions sources. The proposed project would comply with adopted regulations and regulatory programs and result in emissions that would be far below the lowest bright-line threshold used in the state. The proposed project would be consistent with, and would not impede progress toward meeting, District and statewide GHG reduction targets in 2020. Through compliance with the proposed ordinance, the proposed project would ensure that project-related GHG emissions would be consistent with the CAP and would comply with plans, policies, and regulatory programs outlined in the Scoping Plan and adopted by ARB or other California agencies for the purpose of reducing the emissions of GHGs. Therefore, impacts associated with GHG emissions through 2020 would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. Furthermore, the proposed ordinance would include conditions of approval that would impose limits on delivery truck idling to ensure that both air quality and GHG emissions from existing fireworks display events would be effectively reduced. As such, compliance with the proposed ordinance would improve the existing condition by ensuring that GHG emissions would be limited. Therefore, the effect of the proposed ordinance on existing fireworks display events would be consistent with the applicable CAP measures (Table 4.4-6) and various ARB and EPA measures (Table 4.4-7). No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

For the years up to and including 2020, the magnitude of emissions from the proposed new fireworks display events would be below the chosen screening level, would be consistent with the District CAP and reduction measures specified therein, and would comply with plans, policies, and regulatory programs outlined in the Scoping Plan and adopted by ARB or other California agencies for the purpose of reducing the emissions of GHGs. Therefore, impacts would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

For the years up to and including 2020, the effect of the proposed ordinance on existing fireworks display events would not result in GHG emissions that would exceed the chosen screening level, would be consistent with the District CAP and reduction measures specified therein, and would comply with plans, policies, and regulatory programs outlined in the Scoping Plan and adopted by ARB or other California agencies for the purpose of reducing the emissions of GHGs. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effect of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 2: Beyond 2020, the proposed project (1) would be below the relevant bright-line threshold, (2) would be consistent with the state's overall reduction targets identified in SB 32 and EO S-03-05, and (3) would be in compliance with plans, policies, and regulatory programs adopted by ARB or other California agencies for post-2020 for the purpose of reducing emissions of GHGs.

Impact Discussion

As discussed in Threshold 1, the proposed new fireworks display events have the potential to generate GHG emissions, either directly or indirectly. The proposed new fireworks displays events would result in GHG emissions associated with fireworks detonation, tugboat and barge activity, and material deliveries. Emissions from these shows would continue beyond the 2020 timeframe.

Proposed New Fireworks Display Events

The proposed project would include four new fireworks display events per year in San Diego Bay that would be governed by the proposed ordinance. It is anticipated that both the National City and Chula Vista Bayfronts would host a Fourth of July fireworks display event, while the Chula Vista Bayfront would host two other non-Fourth of July fireworks display events throughout the year.

Compliance with Bright Line Threshold

As shown in Table 4.4-5, above, the proposed new fireworks display events would emit an estimated 7 MTCO_{2e} per year, which, whether summed individually (by event) or over the entire year (sum of all events), is far below any bright-line threshold, including the 900 MTCO_{2e} screening level discussed above. Moreover, although the 900 MTCO_{2e} threshold level was devised to analyze the consistency of project emissions with AB 32's 2020 targets, adjustments to this 900 MTCO_{2e} level to account for the increased stringency required for the District and state to meet 2030 and 2050 reduction targets (i.e., adjusting the threshold down to capture more projects) would not change any conclusions herein given the low level of project-related GHG emissions. Therefore, the magnitude of the proposed new fireworks display events would be below the most relevant bright-line threshold.

Consistency with Post-2020 Reduction Targets and "Substantial Progress"

Although the District's CAP and ARB's Scoping Plan mention some potential post-2020 strategies, as of the date this analysis was prepared, emissions savings from these post-2020 strategies are not quantified. SB 32 establishes a statewide target for 2030 GHG emissions reduction levels consistent with EO B-30-15 (40 percent below 1990 levels by 2030). Although SB 32 established a statutory target for post-2020 analyses, there are currently no adopted plans or measures that specifically prescribe how the 2030 target will be reached. Various guidance and white paper documents are in circulation that discuss potential near- and long-term strategies to reduce emissions from all sources, including sources associated with the proposed new fireworks display events, such as tugboats. The District's CAP and ARB's Scoping Plan First Update are some recent examples that include proposed, recommended, or adopted actions to reduce emissions over the long term. The proposed project would not include goods movement activity. Therefore, unlike other maritime-related projects at the District, ARB's Sustainable Freight Strategy and Action Plan are not relevant to the analysis herein.

Post-2020 – Consistency with the District CAP

The District's CAP includes strategies and prescribes a 25 percent reduction goal (below 2006 levels) for 2035 but does not yet include prescribed reduction measures to achieve a post-2020 target. Because the CAP did not estimate reductions from these strategies beyond 2020, emphasis is placed on consistency with the overarching goals of the CAP (to reduce GHG emissions) rather than the specific reductions attached to each strategy. In this sense, it is not considered a qualifying plan for post-2020 purposes, as described in State CEQA Guidelines Section 15183.5; therefore, the post-2020 analysis does not rely on compliance with the CAP to determine whether the project's impacts would be cumulatively considerable for post-2020 GHG emissions. The CAP does include some post-2020 measures to develop renewable energy on the tidelands by both 2035 and 2050 and pursue off-site GHG reduction strategies, but none are directly applicable to the proposed project.

Post-2020 – Consistency with the State's Overall Reduction Targets, including SB 32 and EO S-03-05

A number of studies discuss potential mechanisms for limiting California's economy-wide emissions to the equivalent of 40 percent below the 1990 level by 2030 and 80 percent below the 1990 level by 2050. For instance, ARB and other state agencies are developing GHG emissions reduction scenarios for 2030 that would set the state on the course toward its 2050 GHG emissions reduction goal (CEC 2015). Other studies include a report by the California Center for Science and Technology (2012), a California Department of Transportation report that discusses GHG emissions reductions

from the transportation sector alone (California Department of Transportation 2016), and a study published in *Science* that analyzes the changes that will be required to reduce GHG emissions to 80 percent below 1990 levels by 2050 (*Science* 2012). In general, these studies reach similar conclusions. Deep reductions in GHG emissions can be achieved only with significant changes in electricity production, transportation fuels, and industrial processes (e.g., decarbonizing electricity production, electrifying transportation, implementing widespread adoption of low-carbon or no-carbon transportation fuels, electrifying non-transportation direct fuel uses, increasing energy efficiency, avoiding waste emissions, increasing carbon sequestration, replacing high GWP gases, and other measures).

The systemic changes that will be required to achieve the 2030 and 2050 GHG reduction goals set forth by SB 32 (2030) and EO S-03-05 (2050) will require significant policy, technical, and economic solutions. Decarbonization of the transportation fuel supply will require electric and plug-in hybrid electric vehicles to make up the vast majority of light-duty vehicles. Some changes, such as the use of biofuels to replace petroleum for aviation, cannot be accomplished without action by the federal government. Furthermore, achieving the 2050 GHG reduction goals will require California to increase the amount of electricity that is generated by renewable generation sources dramatically and, correspondingly, advance the deployment of energy storage technology and smart-grid strategies, such as price-responsive demand and the smart charging of vehicles. This would entail a significant redesign of California's electricity system.

In qualitatively evaluating the project-related emissions for consistency with EO S-03-05 and EO B-30-15, it is important to note that these broad-scale shifts in how energy is produced and used are outside of the control of the project and the District. The changes necessitated by the state's long-term climate policy will require additional policy and regulatory changes, which are unknown at this time. As a consequence, the extent to which the project-related emissions and resulting impacts will be mitigated through implementation of such changes is not known. Furthermore, implementation of such additional policy and regulatory changes is in the jurisdiction of state-level agencies (e.g., ARB), not the District or the project.

The four proposed new displays are expected to emit approximately 7 MTCO_{2e} per year. These proposed new fireworks display events would be infrequent and short term, resulting in low levels of emissions. Emissions from fossil fuel-related sources (e.g., tugboats and delivery trucks) would decline through the life of the project as new technologies are adopted and implemented District-wide and as existing and future regulations reduce fuel consumption and emissions over time. Therefore, the project would support progress toward, and not hinder achievement of, the 2030 and 2050 GHG reduction goals of EO S-03-05 and SB 32.

Post-2020 – Consistency with Regulations and Regulatory Programs Adopted by ARB or Other State Agencies

Specifically, at the state level, ARB's Scoping Plan provides insight into the strategies that will very likely be included and adopted into long-term planning documents in the near future. The Draft 2017 Scoping Plan Update builds on the programs set in place as part of the previous Scoping Plan that was drafted to meet the 2020 reduction targets per AB 32. The Draft 2017 Scoping Plan Update proposed meeting the 2030 goal by accelerating the focus on zero and near-zero technologies for moving freight; continuing investment in renewables; greater use of low-carbon fuels, including electricity and hydrogen; stronger efforts to reduce emissions of short-lived climate pollutants (CH₄,

black carbon, and fluorinated gases); further efforts to create walkable communities with expanded mass transit and other alternatives to traveling by car; continuing the cap-and-trade program; and ensuring that natural lands become carbon sinks to provide additional emissions reductions and flexibility in meeting the target (ARB 2016b).

For purposes of discussing post-2020 GHG emissions, the new emissions presented in Table 4.4-5 are minor and reflect only the state measures that are applicable at the time of analysis. Recently adopted regulations (e.g., Phase 2 trucks) will reduce emissions beyond the levels shown in Table 4.4-5. Project consistency with the Draft 2017 Scoping Plan strategies is discussed in Table 4.4-8. The proposed project would be consistent with ARB's strategies for post-2020 and impacts are considered less than significant.

Table 4.4-8. Project Consistency with 2017 Draft Scoping Plan Update for 2030

Policy	Project Consistency Analysis
RPS 50% and Doubling of Energy Efficiency Requirements per SB 350	This policy is not applicable.
Low-Carbon Fuel Standard	Consistent Prior to Mitigation. State program that requires no action at the local or project level. Benefits related to project-related visitation and delivery truck travel will be realized independently.
Mobile-Source Strategy (Cleaner Technology and Fuels [CTF])	Consistent Prior to Mitigation. State program that requires no action at the local or project level. Benefits related to project-related visitation and delivery truck travel will be realized independently.
Short-lived Climate Pollutants per AB 1383	This policy is not applicable.
California Sustainable Freight Action Plan	This policy is not applicable.
20% Refinery Sector	This policy is not applicable.
Post-2020 Cap-and-Trade Program	This policy is not applicable.
Source: ARB 2016b	

Impact Determination Beyond 2020

As discussed above, further implementation of major District-wide and statewide measures would reduce annual operational GHG emissions from the proposed new fireworks display events over the life of the project. For example, GHG emissions from truck deliveries would be reduced as the recently adopted Phase 2 truck fuel efficiency standards are phased in, beginning in model year 2021. Because project-related emissions would be minor and would trend downward over time, GHG emissions reductions associated with the proposed new fireworks display events would demonstrate substantial progress and a downward trajectory relative to BAU emissions. Through compliance with the proposed ordinance, the proposed project would ensure that project-related GHG emissions would be consistent with the CAP and would comply with post-2020 plans, policies, and regulatory programs drafted or adopted by ARB or other California agencies for the purpose of reducing emissions of GHGs. This downward trend over time would be consistent with the need for deeper reductions post-2020, consistent with long-term reduction targets promulgated in SB 32 and EO S-03-05. Therefore, because emissions from the proposed new fireworks display events would be below the chosen bright-line threshold and the proposed project would comply with plans,

policies, and regulations aimed at reducing GHG emissions beyond 2020 targets, impacts associated with GHG emissions beyond 2020 would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. Furthermore, the proposed ordinance would include conditions of approval that would impose limits on delivery truck idling to ensure that both air quality and GHG emissions from existing fireworks display events would be effectively reduced. As such, compliance with the proposed ordinance would improve the existing condition by ensuring that GHG emissions would be limited. Therefore, the effect of the proposed ordinance on existing fireworks display events would support progress toward, and not hinder achievement of, the 2030 and 2050 GHG reduction goals of EO S-03-05 and SB 32 and be consistent with Draft 2017 Scoping Plan Update strategies, as discussed in Table 4.4-8. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

For the years beyond 2020, the magnitude of GHG emissions associated with the proposed new fireworks display events would be below the chosen screening level, would be consistent with the state's overall reduction targets identified in SB 32 and EO S-03-05, and would be in compliance with all plans, policies, and regulatory programs adopted by ARB or other California agencies for post-2020 for the purpose of reducing emissions of GHGs. Therefore, impacts would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

For the years beyond 2020, the effect of the proposed ordinance on existing fireworks display events would not result in GHG emissions that would exceed the chosen screening level, would be consistent with the state's overall reduction targets identified in SB 32 and EO S-03-05, and would be in compliance with all plans, policies, and regulatory programs adopted by ARB or other California agencies for post-2020 for the purpose of reducing emissions of GHGs. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effect of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 3: Implementation of the proposed project would not exacerbate any existing and/or projected damage to the environment, including existing structures and sensitive resources, due to predicted climate change effects, particularly sea level rise.

Impact Discussion

Proposed New Fireworks Display Events

CEQA does not require an analysis of how existing environmental conditions will affect a project's future users or residents (see *California Building Industry Assoc. v. Bay Area Air Quality Management District* [Dec. 17, 2015] Cal.4th). However, the proposed new fireworks display events would be within the Coastal Zone. Pursuant to EO S-13-08, the California Coastal Commission or the District will consider this issue in determining consistency with the Coastal Act (see Section 4.7, *Land Use and Planning*, for a detailed discussion of the proposed project's consistency with the Coastal Act). Therefore, the extent to which existing environmental conditions will affect a project's future users and infrastructure, particularly in terms of SLR, is discussed herein.

As discussed above, several impacts on the environment are expected throughout California as a result of global climate change. The extent of these effects is still being defined as climate modeling tools become more refined. Regardless of the uncertainty in precise predictions, it is widely understood that substantial climate change is expected to occur in the future. Potential climate change impacts in the area include, but are not limited to, SLR, extreme heat events, increased water and energy consumption, and changes in species distribution and range.

Projected SLR as an effect of climate change is expected increase the number of areas that experience coastal flooding along San Diego Bay in the future. Coastal and low-lying areas, such as the project sites, are particularly vulnerable to future SLR. More specifically, SLR is a concern for the future, particularly in combination with future storm events and coastal flooding. A scenario with 100-year floodflows that coincide with high tides, taking into account SLR over a 50- or 100-year horizon, would dramatically increase the risk of flooding in the project vicinity. The concern here is the impact on the project from SLR, as opposed to the impact of the project on SLR.

Historically, the mean sea-level trend in San Diego was 2.13 millimeters per year, with a 95 percent confidence interval of +/- 0.19 millimeter per year, based on monthly mean sea-level data from 1906 to 2015. This is equal to a change of 0.70 feet in 100 years.

SLR is anticipated to accelerate over the next century. The June 2012 National Research Council report *Sea-Level Rise for the Coasts of California, Oregon, and Washington*, which was used in the

California Coastal Commission's *Sea Level Rise Policy Guidance* (California Coastal Commission 2015), projects SLR south of Cape Mendocino to be 0.13 to 0.98 foot (4 to 30 centimeters) by 2030, 0.39 to 2.0 feet (12 to 61 centimeters) by 2050, and 1.38 to 5.48 feet (42 to 167 centimeters) by 2100, as shown in Table 4.4-9. Note that this report was updated in March 2013, but the projections did not change.

Table 4.4-9. Sea-Level Rise Elevation and Projections at National City and Chula Vista Bayfront Locations

Year	Existing Tidal Datum ¹		Sea-Level Rise Projection ²		Project Elevation Relative to Projection ³ – Permanent SLR		Project Elevation Relative to Projection ⁴ – plus Storm Surge	
	Elevation above MSL	MHHW Elevation above MSL	Lower End	Upper End	Lower End	Upper End	Lower End	Upper End
2030	9.32	2.76	0.13	0.98	6.43	5.58	4.03	3.18
2050	9.32	2.76	0.39	2.00	6.17	4.56	3.77	2.16
2100	9.32	2.76	1.38	5.48	5.18	1.08	2.78	-1.32

¹ MHHW elevation above MSL based on the difference between MHHW (5.64 feet) and MSL (2.89 feet). Obtained from: <https://www.portofsandiego.org/maritime/check-port-and-harbor-conditions/424-tides-and-currents.html>.

² Based on projections for south of Cape Mendocino. Obtained from: http://www.opc.ca.gov/webmaster/ftp/pdf/docs/2013_SLR_Guidance_Update_FINAL1.pdf.

³ Based on the difference between site elevation, mean high water elevation above MSL and SLR projects. For example, the lower end elevation at South Embarcadero for 2030 is calculated as follows: 9.32 – 2.76 – 0.13 = 6.43 feet.

⁴ Based on the difference between permanent SLR above MHHW and 100-year (1% return probability) surge events. For example, the lower-end elevation for 2030 is calculated as follows: 6.43 – 2.40 = 4.03 feet. Surge event obtained from: <http://tidesandcurrents.noaa.gov/est/curves.shtml?stnid=9410170>.

MSL = mean sea level; MHHW = mean higher high water

Based on the best available science, there is potential for San Diego Bay inundation near the end of the century if sea levels rise in pace with the “high” projections. Nevertheless, after mid-century, the projections of SLR become more uncertain. These projections vary with future projections, due in part to modeling uncertainties but primarily the uncertainties about future global GHG emissions and the modeling of land-ice melting rates. Therefore, for projects with timeframes beyond 2050, it is especially important to consider adaptive capacity, impacts, and risk tolerance to guide decisions about whether to use the low or high end of the ranges presented.

Although elevations in relation to San Diego Bay vary throughout the project area, the elevations assumed in recent District work near the National City Marine Terminal are used herein to represent the National City and Chula Vista Bayfront locations. The most recent data state that the lowest bulkheads near the National City Marine Terminal are approximately 9 feet above mean sea level.

Table 4.4-9 shows project site elevations and SLR projections for the 2030, 2050, and 2100 timeframes; however, for purposes of this analysis, the life of the proposed project is assumed to be 2050. The San Diego Bay portion of the project area is situated above sea level (approximately 9 feet above existing mean sea level), preventing any adverse effects from SLR until the upper end of the

2100 timeframe for storm-surge events (temporary inundation). This is well beyond the life of the project. Therefore, during the life of the proposed project (2050), the proposed locations for the new fireworks display events would remain well above sea level (approximately 4.56 to 6.43 feet above projection elevations by 2050 without storm surge).

No significant impacts would occur from SLR through the reasonably foreseeable life of the project. Note that the information presented in Table 4.4-9 and herein, particularly projected SLR beyond the life of the project in 2100, is for informational purposes only. Furthermore, the proposed project does not propose construction of any structures that would expose property to the effects of SLR through the life of the project. The fireworks display events would use barges that would be temporarily held in place by tugboats, which would not be affected by SLR. Viewing locations associated with the proposed project would be inhabited only temporarily. The fireworks display events would be temporary and infrequent in nature and could be cancelled, postponed, or moved if necessary. As such, given the temporary nature of the project and because no SLR impacts are identified through the life of the project (2050), the proposed project would not put people at substantial risk of harm due to predicted climate change effects.

In addition to SLR, a range of other potential climate change impacts may affect the proposed project, including increased temperatures, heat-stress days, and changing water supplies. However, implementation of the proposed project would not lead to an increase in wildfires, on-site flooding, or a direct increase in surrounding temperatures. The proposed project does not propose the construction of any structures that would redirect potential SLR floodflows in a manner that would affect the biological or built environment. Moreover, although regional water supplies are subject to potential future climate change effects, the proposed project does not propose any significant increase in water consumption, with consumption being limited to typical uses associated with spectators for the displays (restroom use, drinking). As such, the proposed project would not exacerbate any existing and/or projected damage to the environment, including existing structures and sensitive resources, due to predicted climate change effects, particularly SLR.

Effect of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. Furthermore, the proposed ordinance does not include conditions pertaining to climate change effects, including SLR, and therefore would not result in any change to the existing conditions. As such, the effect of the proposed ordinance on existing fireworks display events would not exacerbate any existing and/or projected damage to the environment, including existing structures and sensitive resources, due to predicted climate change effects, particularly SLR.

Threshold 4: Implementation of the proposed project a) would not result in the wasteful, inefficient, or unnecessary use of energy and b) would not require or result in the construction of new energy system infrastructure or the expansion of existing infrastructure, the construction of which could cause significant environmental effects.

Impact Discussion

Proposed New Fireworks Display Events

Wasteful, Inefficient, or Unnecessary Use of Energy

This impact analysis follows the guidance put forth by Appendix F of the State CEQA Guidelines. As noted in that appendix, the means for achieving the goal of conserving energy include the following:

1. Decreasing overall per capita energy consumption;
2. Decreasing reliance on fossil fuels such as coal, natural gas, and oil; and
3. Increasing reliance on renewable energy sources.

CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The proposed new fireworks display events would consume primarily diesel fuel during tugboat activity associated with placing and holding the barges in position and delivering fireworks to the National City and Chula Vista Bayfronts. As indicated in Table 4.4-10, energy use associated with the proposed new displays is estimated to result in the short-term and periodic consumption of 81 million BTUs of fuel. This represents a small demand on local and regional fuel supplies, which would be easily accommodated with existing supplies, and only a fraction (0.000000003 percent) of statewide consumption (estimated to be 2,335.5 trillion BTU in 2012). Moreover, this demand for fuel would have no noticeable effect on peak or baseline demand for energy because it would occur only periodically during fireworks display evenings. Therefore, operation of the four proposed new fireworks display events would not result in a wasteful, inefficient, and unnecessary usage of direct or indirect energy and would not require or result in the construction of new energy system infrastructure or the expansion of existing infrastructure, the construction of which could cause significant environmental effects.

Table 4.4-10. Estimated Energy Consumption Associated with the Proposed New Display Events

Source	Million BTUs/year ^a
<i>Diesel</i>	
Tugboats	41
Deliveries	40
Total	81

Source: Appendix E

^a Energy is provided in million BTUs for comparison purposes.

BTUs can be converted to gallons of diesel using the following formula: 129,488 BTU/1 gallon of diesel.

As shown in Table 4.4-11, compliance with the proposed ordinance would ensure consistency with the District’s CAP and related state GHG emissions-reduction regulations. For this reason, the proposed project would be consistent with the questions raised in Appendix F of the State CEQA Guidelines. Therefore, impacts would be less than significant.

Table 4.4.-11. Proposed Project Comparison to State CEQA Guidelines Appendix F

Project Impact Considerations from Appendix F	Project Applicability and Analysis
Energy requirements and energy use efficiencies by amount and fuel type for each stage of the project.	Applies. See Table 4.4-10, which breaks down diesel energy use. As indicated, the proposed project would increase the need for fossil fuels, such as diesel fuel, compared to existing conditions. However, this increase would be minor.
Effects on local and regional energy supplies and the need for additional capacity.	Applies. There would be no adverse effects on local or regional energy supplies. The proposed project would not result in any infrastructure or electricity needs. The only energy needs would come in the form of minor amounts of diesel.
Effects of the project on peak- and base-period demands for electricity and other forms of energy.	Applies. The proposed project would not result in any infrastructure or electricity needs. Because operations associated with the proposed new fireworks display events would be temporary and infrequent in nature, the proposed project would not involve a substantial amount of electricity or other energy demand that would affect peak- and base-period demand.
Degree to which the project complies with existing energy standards.	Applies. The proposed project does not propose the construction of any infrastructure or buildings that would be subject to efficiency standards. Phase 2 truck standards would reduce delivery-related fuel and energy consumption over time.
Effects of the project on energy resources.	Applies. The proposed project would not result in an adverse impact on energy resources. There are sufficient energy resources available to support the proposed project, including the minor amount of additional energy demand required to support the proposed new fireworks display events.
Projected transportation energy use requirements and overall use of efficient transportation alternatives.	Applies. The proposed project would increase the need for fossil fuels compared to baseline conditions because it would result in tugboat and delivery activity during four new barge-based fireworks display events; however, these energy sources currently exist, and their impact is negligible. The proposed project would not require new sources of fossil fuels.

Effect of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District’s tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. Furthermore, the proposed ordinance includes conditions of approval that would impose limits on delivery truck idling to ensure that both air quality and GHG emissions from existing fireworks display events would be effectively reduced, which may also reduce energy-related emissions. As such, compliance with the proposed ordinance would improve the existing condition by ensuring that energy consumption would be limited. Therefore, the effect of the proposed ordinance on existing fireworks display events would not result in the wasteful, inefficient, or unnecessary use of energy and would not require or result in the construction of new energy system infrastructure or the expansion of

existing infrastructure, the construction of which could cause significant environmental effects. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

Operation of the proposed new fireworks display events would not result in the wasteful, inefficient, or unnecessary use of energy, nor would it result in the construction of new energy system infrastructure or the expansion of existing infrastructure, the construction of which could cause significant environmental effects. Impacts would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

The effect of the proposed ordinance on existing fireworks display events would not result in the wasteful, inefficient, or unnecessary use of energy, nor would it result in the construction of new energy system infrastructure or the expansion of existing infrastructure, the construction of which could cause significant environmental effects. No significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Proposed Ordinance Changes to Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Proposed Ordinance Changes to Existing Fireworks Display Events

No significant adverse impacts would occur.

4.5.1 Overview

This section describes the existing conditions and applicable laws and regulations for hazards and hazardous materials, followed by an analysis of the proposed project's potential to (1) create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials; (2) create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; and (3) impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

All other potential hazards and hazardous materials impacts, including hazardous materials impacts on an existing or proposed school, being located on a hazardous materials site, safety hazards for people residing or working in the vicinity of an airport, and hazards associated with wildland fires, were analyzed in Section VIII of the Initial Study/Environmental Checklist (Appendix A), which is incorporated by reference. Potential impacts were determined to be less than significant. The analysis and conclusions regarding these impacts are included in Chapter 6, Section 6.4, *Effects Not Found to be Significant*. This section does not address surface water contaminants, air pollutants, or health risk assessment. Water contaminants are discussed in Section 4.6, *Hydrology and Water Quality*. Air pollutants and the health risk assessment are discussed in Section 4.2, *Air Quality and Health Risk*.

Based on the analysis that follows, all impacts related to hazards and hazardous materials would be less than significant. No mitigation is required.

4.5.2 Existing Conditions

The following section describes the existing hazards and hazardous materials conditions associated with fireworks as well as the emergency response plans and procedures of the District's member cities within the vicinity of existing and proposed new fireworks display events in San Diego Bay and the Imperial Beach Oceanfront.

4.5.2.1 Existing Hazards Related to Pyrotechnic Devices

All fireworks contain carbon and sulfur, which are necessary for burning. In addition, during the manufacture of fireworks, a range of substances are added, such as arsenic, manganese, sodium oxalate, aluminum, iron dust powder, potassium perchlorate, strontium nitrate, and barium nitrate, which act as stabilizers and oxidizers and add color. If not handled properly and in accordance with federal and state regulations, hazards related to pyrotechnic devices include structure, vehicle, and outdoor fires as well as fireworks-related injuries (National Fire Protection Association 2016). Additionally, the burning of fireworks releases air pollutants, particularly sulfur dioxide, carbon dioxide, carbon monoxide, and particulate matter, along with several metal salts (e.g., aluminum, manganese, cadmium) (Gouder and Montefort 2014). Criteria air pollutants are recognized to have a variety of hazardous health effects on humans.

An acute air toxics health risk assessment and ambient air quality assessment were prepared to evaluate the potential acute health risk impacts of toxic air contaminant emissions from the proposed new fireworks display events (see Appendix E). The results of the health risk assessment and air quality assessment are discussed in Section 4.2, *Air Quality and Health Risk*.

4.5.2.2 Emergency Response Plans

San Diego County

In San Diego County, the overall county response to disasters is coordinated through the Unified San Diego County Emergency Services Organization, Office of Emergency Services. The organization is composed of the 18 cities within the county and provides for a single operational area for coordination of disaster activities. The Office of Emergency Services and the Unified Disaster Council of the Unified San Diego County Emergency Services Organization produced the San Diego County Operational Area Emergency Operations Plan, which is used by the County of San Diego and all cities within the county to respond to major emergencies and disasters. This plan addresses such issues as hazardous materials management, bio-terrorism, and joint preparedness activities.

The police and fire departments for the cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach are encouraged to adopt the County's Operational Area Emergency Operations Plan, with modifications, as appropriate for their city.

San Diego Unified Port District

The District plans ahead for emergencies with its Emergency Operations Center (EOC) Guidebook, which outlines the management framework for the EOC Team, which is composed of designated District staff members. The District's EOC Team coordinates with on-scene incident managers and emergency response organizations to acquire, allocate, and track resources; manage and share information; establish response priorities among incidents; provide legal and financial support; and liaison with other jurisdictions and other levels of government.

The guidebook provides guidance for coordinating communications and deploying essential resources. Because of the support nature of the District's EOC Team, initial actions and EOC responsibilities are tailored to address the unique requirements and responsibilities of the District.

City of San Diego

The City of San Diego Fire-Rescue Department is responsible for the preparation, maintenance, and execution of Emergency Management Plans. The City of San Diego has a Multi-Hazard Functional Plan and an EOC to provide emergency response services throughout the City. The City makes regular modifications to the Emergency Management Plans as hazards, threats, population, land uses, or other factors change. The plan identifies resources available for emergency response and establishes coordinated action plans for specific emergency situations, including earthquake, fire, major rail and roadway accidents, flooding, hazardous materials incidents, terrorism, and civil disturbances. The City coordinates emergency response activities through its EOC. County, state, and federal emergency response resources are also located within San Diego and available to assist the EOC if a situation demands additional support. The EOC is staffed 24 hours a day by both public safety and other City personnel to coordinate emergency response activities.

City of Coronado

The City of Coronado Emergency Operations Plan provides a comprehensive emergency management system for the effective management of emergency incidents. The City of Coronado Emergency Information Guide, dated January 1994, designates the State Route 75 bridge and Silver Strand as the primary evacuation routes in the City and includes a map depicting how traffic on the City's other arterial and collector streets would access these evacuation routes. Pedestrians as well as passengers on ferry boats, water taxis, and private boats or aircraft from North Island Naval Air Station may evacuate across the Bay by using possible secondary routes.

City of National City

In the City of National City, the National City Fire Department provides fire control, emergency medical, rescue, fire protection, and educational services. National City integrated the federal National Incident Management System into the emergency management system by providing all EOC staff members with appropriate National Incident Management System training. EOC staff members may perform multiple functions when the EOC is activated. The EOC manages the Department Operations Centers when activated, which, in turn, manages the field operations. The EOC requests additional resources from the County EOC when necessary. National City adopted an updated Emergency Operations Plan in May 2010. The plan describes a comprehensive emergency management system that provides for a planned response to disasters (e.g., natural disasters, technological incidents, nuclear incidents). The plan describes the overall responsibilities for protecting life and property and ensuring the overall well-being of the population. The plan also identifies the sources of outside support that might be provided by other jurisdictions as well as the private sector (City of National City 2011).

City of Chula Vista

Emergency response services in the City of Chula Vista are provided by the Chula Vista Fire Department. In the event of a community disaster or emergency, the Chula Vista Fire Department operates an EOC. The EOC is staffed by emergency personnel and trained City of Chula Vista staff members, with the purpose of supporting residents during disasters by focusing on life safety, evacuation needs, and public utility and infrastructure maintenance. Services provided by the Chula Vista Fire Department include emergency medical services, hazardous materials response, and disaster preparedness, among others. The City of Chula Vista does not have an adopted Emergency Response Plan, but rather relies on the County's Operational Area Emergency Operations Plan.

City of Imperial Beach

The Imperial Beach Fire Department is responsible for protecting the lives and property of the citizens of Imperial Beach against hazards that are caused by fire, explosion, or natural disasters. The department responds to calls for various emergency services, including structure fires, wildland fires, vehicle fires, hazardous material incidents, traffic collisions, emergency medical aids, and public service requests. The City of Imperial Beach does not have an adopted Emergency Response Plan, but rather relies on the County's Operational Area Emergency Operations Plan.

4.5.3 Applicable Laws and Regulations

4.5.3.1 Federal

Resource Conservation and Recovery Act

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act (RCRA) (42 United States Code [USC] 6901 et seq.). The RCRA was established in 1976 to protect human health and the environment, reduce waste, conserve energy and natural resources, and eliminate hazardous waste. Under the authority of the RCRA, the regulatory framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, or dispose of hazardous waste, is found in 40 Code of Federal Regulations (CFR) 260–299. Other applicable federal laws and regulations include the following:

- **49 CFR 172 and 173:** These regulations establish standards for the transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping hazardous materials and hazardous wastes as well as training requirements for personnel who complete shipping papers and manifests.
- **40 CFR Subchapter I—Solid Wastes:** These regulations implement the provisions of the Solid Waste Act and RCRA. They also establish the criteria for the classification of solid waste disposal facilities (landfills), hazardous waste characteristic criteria and regulatory thresholds, hazardous waste generator requirements, and requirements for the management of used oil and universal wastes.

Department of Transportation Hazardous Materials Regulations (49 CFR 100–185)

U.S. Department of Transportation (DOT) Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling, and transportation. Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), 173 (Packaging Requirements), 177 (Highway Transportation), 178 (Packaging Specifications), and 180 (Packaging Maintenance) would all apply to goods movement to and from the proposed project and/or surrounding uses.

Enforcement of these DOT regulations is shared by each of the following administrations under delegations from the Secretary of the DOT:

- **Research and Special Programs Administration** is responsible for container manufacturers, reconditioners, and retesters and shares authority over shippers of hazardous materials.
- **Federal Highway Administration** enforces all regulations pertaining to motor carriers.
- **Federal Railroad Administration** enforces all regulations pertaining to rail carriers.
- **Federal Aviation Administration** enforces all regulations pertaining to air carriers.
- **U.S. Coast Guard (USCG)** enforces all regulations pertaining to shipments by water.

U.S. Coast Guard Marine Safety Program

Pursuant to 33 CFR 100, USCG implements the Marine Safety Program, which is designed to ensure the safety of vessels and recreational boaters on navigable U.S. waters during fireworks display events. USCG issues marine event notifications to sponsors of public fireworks display events that

have the potential to endanger marine safety. An application for the marine event must be submitted to USCG no later than 135 days prior to the event if the applicant does not meet the criteria specified in 33 CFR 100.15(c) or 60 days prior to the event if the applicant does meet the criteria. After issuing a marine event notification for the fireworks display event, USCG is authorized to promulgate special local regulations as necessary to ensure public safety on navigable waters immediately prior to, during, and immediately after the approved fireworks display event. Such regulations may include a restriction on or control of the movement of vessels through a specified fireworks display event area.

Department of Homeland Security Chemical Facility Anti-Terrorism Standards

On October 4, 2006, the U.S. Department of Homeland Security (DHS) Appropriations Act of 2007 was signed into law. Under Section 550 of the Appropriations Act of 2007, DHS finalized chemical facility anti-terrorism standards on November 2, 2007. Facilities possessing any of the 335 chemicals of interest in quantities at or above screening threshold quantities must complete an electronic “top screen” questionnaire that determines whether further assessments and security plans should be developed to ensure safety. The information should allow DHS to determine the potential for and possible consequences of a terrorist attack and assess the possible risks if dangerous chemicals are stolen. Pyrotechnic technicians and businesses that use or store certain chemicals listed in Part 27 of the standards are subject to DHS review. Operators may not use dangerous or explosive chemicals that are not on the list without DHS review and consideration of safety.

4.5.3.2 State

California State Department of Toxic Substances Control

In light of the risks to public health and the environment posed by perchlorate releases, the California legislature adopted the Perchlorate Contamination Prevention Act of 2003, amending Chapter 6.5 of Division 20 of the Health and Safety Code and requiring the California Department of Toxic Substances Control to adopt regulations specifying best management practices for perchlorate and perchlorate-containing substances. The perchlorate best management practices regulations were adopted on December 31, 2005, and are contained in California Code of Regulations (CCR) Title 22, Social Security Division 4.5, Environmental Health Standards for the Management of Hazardous Waste Chapter 33, Best Management Practices for Perchlorate Materials Article 1, Sections 67384.1–67384.11. In Section 67384.8(c), Special Best Management Practices for Flares and Pyrotechnic Perchlorate Materials, the regulations provide that “Within twenty-four (24) hours of a public display of fireworks or the use of dangerous fireworks, the pyrotechnics operator, in addition to complying with CCR Title 19, Section 1003, shall, to the extent practical, collect any stars and un-ignited pyrotechnic material found during the required inspection of the entire firing range.”

Hazardous Waste Control Act (Health and Safety Code Section 25100 et seq.)

The Department of Toxic Substances Control is responsible for the enforcement of the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which creates the framework under which hazardous wastes are managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA cradle-to-grave waste management system in California. It also provides for the

designation of California-only hazardous waste and development of standards that are equal to or, in some cases, more stringent than federal requirements. The regulations that follow help to enforce the Hazardous Waste Control Act.

Environmental Health Standards for the Management of Hazardous Waste (22 CCR Division 4.5, Section 66001 et seq.)

CCR Title 22, Division 4.5, Section 66001 et seq., establishes requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (California Health and Safety Code, Chapter 6.11, Sections 25404–25404.9)

This program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the environmental and emergency response programs and provides authority to the Certified Unified Program Agency (CUPA). The CUPA for San Diego County is the San Diego County Department of Environmental Health's Hazardous Materials Division (HMD). HMD has the responsibility and authority to implement and enforce the requirements listed in Chapter 6.5 (commencing with Section 25100), Chapter 6.67 (commencing with Section 25270), Chapter 6.7 (commencing with Section 25280), Chapter 6.95 (commencing with Section 25500), and Sections 25404.1 and 25404.2, including the following programs, which are applicable to the proposed project:

- **California Accidental Release Prevention Program.** This program requires any business that handles more than threshold quantities of an extremely hazardous substance to develop a Risk Management Plan. The Risk Management Plan is implemented by the business to prevent or mitigate releases of regulated substances that could have offsite consequences through hazard identification, planning, source reduction, maintenance, training, and engineering controls.
- **Hazardous Waste Generator Program.** This program regulates businesses that generate any amount of a hazardous waste. Proper handling, recycling, treating, storing, and disposing of hazardous waste are key elements to this program.

Workplace Safety (California Labor Code, Division 5, Parts 1, 6, 7, and 7.5)

The California Labor Code regulates the workplace to ensure appropriate training on the use and handling of hazardous materials and the operation of equipment and machines that use, store, transport, or dispose of hazardous materials. Division 5, Part 1, Chapter 2.5, ensures that employees who are in charge of handling hazardous materials are appropriately trained. Division 5, Part 6, governs the operation and care of hazardous material storage tanks and boilers. Division 5, Part 7, ensures that employees who work with volatile flammable liquids are outfitted in appropriate safety gear and clothing. Division 5, Part 7.5, otherwise referred to as the California Refinery and Chemical Plant Worker Safety Act of 1990, was enacted to prevent or minimize the consequences of catastrophic releases of toxic, flammable, or explosive chemicals. The establishment of process safety management standards is intended to eliminate, to a substantial degree, the risks to which workers are exposed in petroleum refineries, chemical plants, and other related manufacturing facilities.

California Department of Forestry and Fire Protection Fireworks in California Handbook

The *Fireworks in California* handbook was prepared by the California Department of Forestry and Fire Protection and includes a compilation of all relevant national and state standards related to fireworks (Appendix C). The Health and Safety Codes direct the California State Fire Marshal to prepare regulations governing the use of fireworks in California. The law provides a general framework around which more detailed regulations have been developed. The objective of the *Fireworks in California* handbook is to provide a publication that will enhance the safe use of pyrotechnic material and be a reference source for enforcement and fire prevention personnel as well as licensees. The laws and regulations that follow are identified in the *Fireworks in California* handbook and are directly applicable to the proposed project.

California Health and Safety Code, Sections 12500–12759 (State Fireworks Law)

California's Fireworks Law, passed in 1938, established the Office of the State Fire Marshal as the only fireworks classification authority in California. Fireworks are classified through laboratory analysis, field examinations, and the test firing of items. As part of the program, the State Fire Marshal requires the licensing of all pyrotechnic operators, fireworks manufacturers, importer-exporters, wholesalers, retailers, and public display companies. Pyrotechnic operators who discharge fireworks at public displays or launch high-powered and experimental rockets must also pass a written examination and provide proof of experience.

The state's Explosives Law authorizes the State Fire Marshal to adopt regulations for the safe use, handling, storage, and transportation of explosives. Under those regulations, local law enforcement agencies track the location of storage magazines within their jurisdictions through a permit process. Special exemptions have been provided within the regulations to allow for limited possession and storage of some explosives, such as black powder, which is used by hunters and the sporting community.

California Fire Code, Chapter 56, Explosives and Fireworks

Chapter 56 of the California Fire Code governs the possession, manufacture, storage, handling, sale, and use of explosives, explosive materials, fireworks, rockets, emergency signaling devices, and small arms ammunition. Exceptions include:

1. The Armed Forces of the U.S., USCG, or National Guard.
2. Explosives in forms prescribed by the official U.S. Pharmacopoeia.
3. The possession, storage, and use of small arms ammunition where packaged in accordance with DOT packaging requirements.
4. The possession, storage, and use of not more than 1 pound (0.453 kilogram) of commercially manufactured sporting black powder, 20 pounds (9 kilograms) of smokeless powder, and 10,000 small arms primers for hand loading small arms ammunition for personal consumption.
5. The use of explosive materials by federal, state, and local regulatory, law enforcement, and fire agencies acting in their official capacities.

6. Special industrial explosive devices that in the aggregate contain less than 50 pounds (23 kilograms) of explosive material.
7. The possession, storage, and use of blank industrial-power load cartridges where packaged in accordance with DOT packaging regulations.
8. Transportation in accordance with DOT 49 CFR Parts 100–185.
9. Items preempted by federal regulations.
10. Items preempted by state law and/or regulations.

Title 19, California Code of Regulations, Chapter 6. Fireworks

Article 3 of Chapter 6 of the CCR dictates that no person shall engage in any type of fireworks activities without having submitted an application for and having obtained a license from the State Fire Marshal in accordance with the provisions of the chapter. Exceptions include licensed pyrotechnic operators, basic commercial, restricted commercial, and rockets, first class, who may employ unlicensed assistants. Licensed special effects and theatrical pyrotechnicians may employ unlicensed assistants. Unlicensed assistants shall perform only when under the direct, immediate, and constant supervision of the licensee when handling fireworks and pyrotechnic compositions. In addition, when applying for a permit under Health and Safety Code Section 12640(e), an applicant shall submit the following information and evidence to the authority having jurisdiction:

1. The name of the organization sponsoring the display, together with the names and license numbers of persons actually in charge of the display.
2. The date and time of day the display is to be held.
3. The exact location planned for the display.
4. The size and number of all fireworks to be discharged, including the number of set pieces, shells, and other items. Shells shall be designated by diameter, specifying single, multiple break, or salute.
5. The manner and place of storage of all fireworks prior to, during, and after the display.
6. Diagram of the grounds on which the display is to be held, showing the point at which the fireworks are to be discharged; the location of all buildings, roads, and other means of transportation; the lines behind which the audience will be restrained; and the location of all nearby trees, telegraph or telephone lines, or other overhead obstruction.
7. Proof that satisfactory workers' compensation insurance is carried for all employees in compliance with Labor Code Section 3700.
8. If the permit is for a public display or special effects, documentary proof of conformance with Sections 12610 and 12611, Health and Safety Code.
9. A State Fire Marshal's license for the public display of fireworks, under Health and Safety Code Sections 12575, 12576, or 12577. No permit for a public display of any type shall be granted unless a public display license, general, special, or limited, has been first obtained from the State Fire Marshal.
10. The name and license number of the wholesaler who supplied all items used in the display.

Hazardous Materials Transportation, Title 13, California Code of Regulations

Selected sections of Title 13 of the CCR, including Section 1150, Sections 1160 through 1164, Section 1166, and Section 1167, establish regulations for the transportation of hazardous materials and explosives such as fireworks. These sections cover the designation of routes and stopping places, en route inspections, detours, the labeling of hazardous materials, and other transportation regulations.

4.5.3.3 Regional

San Diego County Code, Title 6, Division 8

The San Diego County Code of Regulatory Ordinances, under Title 6, Division 8, Chapters 8 through 11, establishes the HMD as the local CUPA. The HMD inspects businesses or facilities that handle or store hazardous materials, generate hazardous waste, generate medical waste, and own or operate underground storage tanks.

4.5.3.4 Local

City of San Diego Municipal Code, Article 5, Division 56

Article 5, Division 56, of the City of San Diego Municipal Code regulates explosives and fireworks. The City adopted Sections 5601.1 through 5608.1.1 of the California Fire Code without change pursuant to Section 55.0101(a) of the municipal code. Under this division of the municipal code, it is unlawful for any person to possess, store, manufacture, offer for sale, sell at retail, use, or explode any fireworks within the incorporated City limits. However, fireworks may be part of a public display when permitted by the City and conducted by a State of California licensed pyrotechnic operator.

City of San Diego Special Event Permit

In San Diego, a Special Event Permit is required for an organized activity that incorporates the use of:

- City public streets, sidewalks, and rights-of-way; and/or
- City public parks or other City public property; and/or
- Outdoor private property, including parking lots, only when the property is part of a Special Event Venue that includes City public property and permission has been received by the property owner/manager (for example, a parking lot used as part of a street festival venue).

All activities associated with the use of pyrotechnics must be reviewed and approved by the San Diego Fire Department, in compliance with the International Fire Code, as amended by the State of California and City of San Diego. Examples include indoor and outdoor fireworks, lasers, model rocket launches, and special effects using pyrotechnical devices. A permit and full demonstration to the State Fire Marshal prior to the event date is required. As part of the permit requirements, onsite stand-by and inspection services may be required because of the size, complexity, and/or unique safety issues regarding the activities associated with the event.

City of Coronado Municipal Code, Title 20, Chapter 20.16

Under Chapter 20, Chapter 26.10, of the City of Coronado Municipal Code, it is unlawful for any person to commence, conduct, manage, participate in, or sponsor a public display of fireworks without an operations permit for public displays of fireworks.

City of Coronado Operations Permit: Public Displays of Fireworks

An operations permit is required for the activities set forth in Title 20, Operations Permits, of the Coronado Municipal Code. The activities described in Title 20 require regulation by the City of Coronado to protect and promote the health, safety, and public peace of the community. An operations permit for public displays of fireworks is required under Chapter 20.16 of Title 20. An application for a public display of fireworks operations permit must be filed no later than 14 days prior to the proposed date of the public fireworks display. The Director of Fire Services is authorized to issue the public displays of fireworks operations permit.

City of Coronado Special Event Permit

Individuals and organizations wishing to hold an event in City-owned facilities or on public rights-of-way shall obtain a Special Event Permit from the City Manager's Office or Recreation Services, depending on the size or type of event. Review of the Special Event Permit application by City staff and/or the City Council ensures the event will be held safely with minimum disruption to the surrounding community, and that the cost of the event is borne by its sponsors. A special event is any scheduled or planned non-emergency event occurring within the City of Coronado that can reasonably be expected to require increased or modified emergency or non-emergency services or support by the City government and personnel. There are three types of special events that require approval by the City Manager and/or City Council: Major Events, Moderate Events, and Minor Events.

City of National City Municipal Code, Title 10, Chapter 10.16

Under Title 10, Chapter 10.16, of the National City Municipal Code, it is unlawful to discharge, fire, use, possess, or store any or all types and manner of fireworks, including firecrackers, bombs, rockets, torpedoes, Roman candles, or any other type or manner of fireworks or substances designed or intended for pyrotechnic displays, in the City. The City Council, upon application of any person, may issue a permit for the public display of fireworks under the direct supervision of a person who has been examined and approved by the State Fire Marshal. All such displays of fireworks shall be located, discharged, or fired so as, in the opinion of the City Council, not to be hazardous to surrounding property or endanger any person or persons.

City of National City Temporary Use Permit

Temporary Use Permits are used for certain special activities, events, or structures that are beneficial to the public for limited periods of time even though they would not comply with building, fire, zoning, or other local codes, if they were permanent. Chapter 15.60 of the National City Municipal Code regulates these permits. In general, for any organized activity that uses public property, facilities, parks, sidewalks, streets, or any public rights-of-way, applicants need to obtain this permit. In some cases, activities or events taking place on private property also require a Temporary Use Permit. Temporary Use Permits include submittal of information such as staging required, roadways

used and/or closed for the event, times, and other information. These Temporary Use Permits are forwarded to City departments such as the fire department for review and emergency planning purposes (Hernandez pers. comm.).

There are three types of Temporary Use Permits for different uses and activities: Class A, Class B, and Class C. Class A activities require City Council approval and include activities such as block or holiday parties, fairs, and musical concerts/festivals. Class B activities are subject to conditions and City codes, as applicable, and include activities such as mobile trailers for offices on active construction sites or for temporary classrooms. Class C activities are subject to Business License Regulations and include activities such as Christmas tree sale lots, garage sales, and special promotion/outdoor sales. The City may also attach any conditions and/or limitations deemed necessary to protect public health, safety, and welfare. Such conditions may include hours of use, security, trash collection and disposal, and traffic control. The City will also notify the applicant of any supplemental permits and provisions that may be required, such as a County environmental health permit, fire permit, or fireworks permit.

City of National City Fireworks Permit

For special events requiring a Temporary Use Permit that propose to include a fireworks display, a fireworks permit must be obtained from the National City Fire Department in addition to the Temporary Use Permit. The fireworks permit must be obtained at least 2 weeks prior to the event. The National City Fire Department has absolute authority, control, and decisions over all fireworks and/or pyrotechnic displays for which it issues a permit. An inspection from the fire department must be obtained prior to any ignition of any fireworks.

City of Chula Vista Municipal Code Title 2, Chapter 2.66

Under Title 2, Chapter 2.66, of the Chula Vista Municipal Code, it is unlawful to discharge any firearm or fireworks ("fireworks" shall mean any composition or device for the purpose of producing a visible or an audible effect by combustion, deflagration, or detonation) without the written consent of the City.

City of Chula Special Event Permit

The City of Chula Vista maintains Special Event Guidelines, which outline the Special Event Permit process and any special event-related permit types, as well as the requirements for event infrastructure, operational plans (e.g., medical, traffic control), community outreach, and insurance. The Special Event Permit process is managed by the Office of Communications and supported by the Special Events Management Team. The permit process involves submitting a permit application to the Office of Communication, which is responsible for reviewing and issuing the Special Event Permit. There are a number of different special event-related permits that may be issued independent of, or in addition to, a Special Event Permit. Examples of special event-related permits include alcohol use permits, building permits (for temporary structures), and a firework/pyrotechnic/special effect/laser permit. The proposed event venue, activities, components, attendance, and unique circumstance of the event are contributing factors to the final determination of the required permit types.

City of Chula Vista Firework/Pyrotechnic/Special Effect/Laser Permit

A firework/pyrotechnic/special effect/laser permit is one of the special event-related permits outlined in the City of Chula Vista's Special Event Guidelines. This permit may be issued independent of, or in addition, to a Special Event Permit, and is required for all activities associated with the use of pyrotechnics and open flames and must be reviewed and approved by the Chula Vista Fire Department in compliance with the California Fire Code as amended by the State of California and City of Chula Vista. Examples of activities in this category include outdoor fireworks, lasers, model rocket launches, open flame activities such as fire walking, and special effects using pyrotechnical devices. As part of the permit requirements, onsite stand-by and inspection services may be required due to the size, complexity, and/or unique safety issues regarding the activities associated with the event.

City of Imperial Beach Special Event Permit

A Special Event Permit is required for any organized activity held completely or partially on public land (excluding recreation centers) or an event requiring adjacent parking or traffic variances or activity on privately owned property when the property is not designed or intended for that activity. The Imperial Beach Fire Department must be notified as part of the special event permit application process whether the special event includes fireworks.

4.5.4 Project Impact Analysis

4.5.4.1 Methodology

The following impact analysis evaluates the effects from fireworks-related hazards and hazardous materials associated with the proposed new fireworks display events. Based on the existing conditions described above, the impact analysis assesses the potential direct and indirect impacts from fireworks-related hazards and hazardous materials and determines whether the proposed new fireworks display events would result in a significant impact, pursuant to the applicable thresholds listed below.

4.5.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining the significance of impacts associated with hazards and hazardous materials resulting from implementation of the proposed project. The determination of whether a hazard and/or hazardous material impact would be significant is based on the professional judgment of the District as lead agency, supported by the recommendations of qualified personnel at ICF, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

3. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
4. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport, public use airport, or private airstrip, result in a safety hazard for people residing or working in the project area.
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
7. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The analysis of whether the proposed project would have a significant impact related to hazards and hazardous materials under Thresholds 3, 4, 5, and 7 is provided in Section VII of the Initial Study/Environmental Checklist (Appendix A of this Draft EIR), which determined that the proposed project would result in less-than-significant impacts. The analysis and conclusions therein are incorporated by reference into this section of the Draft EIR and are summarized in Chapter 6, *Additional Consequences of Project Implementation*. Therefore, only Thresholds 1, 2, and 6 are discussed in the impact analysis that follows.

4.5.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Threshold 2: Implementation of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Impact Discussion

Proposed New Fireworks Display Events

The proposed new fireworks display events would be temporary and infrequent in nature and, therefore, would not require the transport, use, and disposal of hazardous materials on a routine basis. On-land facilities are not required, and no construction on land or in the water is proposed as part of the project. As such, no permanent facilities involving the routine transport, use, or disposal of hazardous materials are included as part of the proposed project.

Although no permanent, continuous operations would occur, the proposed new fireworks display events would require the infrequent transport, delivery, and placement of fireworks on barges within

and/or adjacent to San Diego Bay up to four times per year. The fireworks would be set up at a loading facility yard, in accordance with the California Department of Forestry and Fire Protection's *Fireworks in California* handbook (Appendix C), which is enforced by the responsible city fire department with jurisdiction over each show. In accordance with Title 19 of the CCR, all fireworks operators are required to obtain a fireworks license from the California Department of Forestry and Fire Protection, Office of the State Fire Marshal, in order to operate a fireworks display event in California. Because the proposed new fireworks display events would be temporary and infrequent in nature; would be required to comply with the state and local laws set forth in the *Fireworks in California* handbook, as enforced by the responsible city fire departments; and would be required to comply with existing federal, state, and local regulations, the proposed new fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Required compliance with existing laws and regulations would ensure that the potential for a significant hazard to occur from routine transport, use, or disposal of hazardous materials associated with fireworks would be less than significant.

The proposed new fireworks display events would be required to maintain a safety zone around the fireworks launch sites. This safety zone delineates the area in which public access is prohibited; neither spectators on land nor vessels in the water are allowed within the zone during the time the fireworks are being launched. This safety zone is established by USCG and/or the State Fire Marshal, as appropriate, around the barge from which the fireworks are launched. Once the fireworks display event is over, the fireworks operator and the State Fire Marshal would inspect the mortars and surrounding areas for any safety issues, such as unexploded firework components, in accordance with the requirements of Title 19 of the CCR. All unexploded fireworks, including unexploded components, would be collected, handled, and disposed of by the fireworks operator in accordance with Title 19 of the CCR. Additionally, no one would be allowed into the safety zone until granted permission by the State Fire Marshal of the responsible city (Szymanski pers. comm.). Once the site is cleared, the fireworks operator would proceed with post-fireworks display event cleanup practices, consistent with the general permit and as required by the proposed ordinance, including collecting any unexploded fireworks and floating debris from spent fireworks. As such, because of the temporary and infrequent nature of the proposed new fireworks display events, as well as the highly regulated manner in which fireworks are allowed to be launched, the proposed new fireworks display events would not result in a significant hazard to residents or workers in the vicinity of the fireworks display events. Required compliance with existing laws and regulations would ensure that the potential for a significant hazard to occur from routine transport, use, or disposal of hazardous materials associated with fireworks would be less than significant.

As discussed above, no construction is proposed as part of the project. As such, typical construction-related hazardous materials, including gasoline, oil, other vehicle-related fluids, paints, solvents, and metals, would not be used. It is possible that gasoline, oil, and other vehicle-related fluids could be released by trucks on land during the transport of pyrotechnic devices or by tugboats or other vessels in the water during operation of a fireworks display event. However, compliance with federal (including DOT Hazardous Materials Regulations [49 CFR 100-185]), state (including Title 19 of the CCR), and local regulations, in combination with oversight by licensed fireworks operators and responsible city fire departments, would ensure that all hazardous materials associated with fireworks are used, stored, and disposed of properly. As such, potential impacts related to a hazardous materials release during the proposed new fireworks display events would be less than

significant. Water contaminants are discussed in Section 4.6, *Hydrology and Water Quality*, and air pollutants are discussed in Section 4.2, *Air Quality and Health Risk*.

Based on the information above, the proposed new fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous waste or the release of hazardous materials associated with fireworks. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance does not include any conditions pertaining to fireworks-related hazards or hazardous materials above and beyond the federal, state, and local laws and regulations that currently exist and, therefore, would not result in any change to the existing condition in terms of these issues. As such, the effects of the proposed ordinance on existing fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous waste or the release of hazardous materials associated with fireworks. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the release of hazardous materials associated with fireworks. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the release of hazardous materials associated with fireworks. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 6: Implementation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Impact Discussion

The proposed new fireworks display events would be located in areas where existing emergency response times for fire protection, emergency medical services, and police protection meet adopted standards, as indicated in Section 4.9, *Public Services and Facilities*. The proposed new fireworks display events would be temporary and infrequent in nature. In addition, the proposed project does not include any characteristics (e.g., permanent road closures) that would physically impair or otherwise interfere with emergency response or evacuation in the vicinity of the proposed new fireworks display events. Ongoing implementation and updating of relevant Emergency Operations Plans would ensure an adequate response to emergencies and evacuation plans as growth occurs and reduce the potential for interfering with emergency plans.

Proposed New Fireworks Display Events

As discussed in Section 4.10, *Transportation, Circulation, and Parking*, fireworks display events generate increased levels of vehicle, pedestrian, and bicycle traffic, with moderately increased levels of vehicle traffic and significantly increased levels of pedestrian and bicycle traffic observed to occur during Fourth of July fireworks display events. Such additional pedestrian and bicycle traffic can be anticipated to occur during the proposed new fireworks display events along the National City and Chula Vista Bayfronts. As a result, the potential exists for pedestrian and bicycle traffic to overflow into adjacent roadways and intersections, which, in turn, could impede vehicle circulation and temporarily impair emergency response.

The National City Fire Department would provide fire protection and emergency services during the proposed new Fourth of July fireworks display event along the National City Bayfront on the barge and within the landside viewing areas in the City. The City of National City requires Temporary Use Permits for special events, which include submittal of information such as the staging required, roadways used and/or closed for the event, times, and other information. The Temporary Use Permits are forwarded to City departments such as the fire department for review and emergency planning purposes (Hernandez pers. comm.). The City may attach any conditions and/or limitations to the Temporary Use Permit deemed necessary to protect public health, safety, and welfare. Such conditions may include hours of use, security, trash collection and disposal, and traffic control. A fireworks permit from the National City Fire Department would also be required for the proposed new fireworks display event. The fireworks permit must be obtained at least 2 weeks prior to the fireworks display event. The National City Fire Department has absolute authority, control, and decisions over all fireworks and/or pyrotechnic displays for which it issues a permit. An inspection from the fire department must be obtained prior to any ignition of any fireworks. In addition, the National City Police Department implements an operational plan and a traffic plan to respond to any emergencies during special events, such as a fireworks display event. Consistent with its current

practice, the National City Police Department would implement an operational plan and a traffic plan during the proposed new Fourth of July fireworks display event in National City.

Regarding the proposed new fireworks display events along the Chula Vista Bayfront, the Chula Vista Fire Department would provide fire protection and emergency services during both the Fourth of July and non-Fourth of July displays on the barge and within the landside viewing areas in the City. The City currently maintains Special Event Guidelines, which outline the Special Event Permit process, any special event-related permit types, and any requirements for the special event, such as an operational plan. There are multiple types of operational plans that may be required as part of the Special Event Permit issued by the City, including medical and transportation operational plans. Events with a higher potential risk are required to implement an appropriate medical operational plan to address the specific needs of the attendees and/or participants. The Chula Vista Police Department in conjunction with the City of Chula Vista Public Works/Traffic Engineering staff determines if a transportation operational plan is required. The transportation operational plan would require traffic control in order to facilitate vehicular, bicycle, and pedestrian movement on City streets and public rights-of-way that would potentially be affected by the event. These operational plans are developed for each special event application approval. In accordance with the City's Special Event Guidelines, medical operational plans specific to each proposed new fireworks display event would be implemented if deemed necessary through the Special Event Permit process; therefore, response times to the sites of these proposed new displays are not relevant as emergency/medical response units would be strategically assigned per each proposed new fireworks display event in order to maintain effective response. In addition, there are a number of different special event-related permits that may also be issued independent of, or in addition to, a Special Event Permit. A firework/pyrotechnic/special effect/laser permit is one of the special event-related permits outlined in the City of Chula Vista's Special Event Guidelines. This permit is required for all activities associated with the use of pyrotechnics and open flames and must be reviewed and approved by the Chula Vista Fire Department in compliance with the California Fire Code as amended by the State of California and City of Chula Vista. As part of the permit requirements, onsite stand-by and inspection services may be required due to the size, complexity, and/or unique safety issues regarding the activities associated with the event. In accordance with the City's Special Event Guidelines, medical and transportation operational plans specific to each proposed new fireworks display event would be implemented if deemed necessary; therefore, response times to the sites of these proposed new displays are not relevant as response units would be strategically assigned per each proposed new fireworks display event in order to maintain effective emergency response.

Additionally, the proposed new fireworks display events along the National City and Chula Vista Bayfronts would be required to comply with all federal, state, and local laws and regulations governing fireworks, including, but not limited to, the laws and regulations set forth in the *Fireworks in California* handbook, which is enforced by the responsible city fire department with jurisdiction over each display, as well as any special event permit requirements of the National City and Chula Vista Fire Departments.

Because the proposed new fireworks display events would occur within San Diego Bay, other emergency response services would be provided by the Harbor Police Department (HPD), which would employ special patrol vessels to ensure safety on the water during these new fireworks display events, as necessary. HPD currently provides police protection, law enforcement, and marine firefighting services in and around San Diego Bay for the District. Event-specific regulatory and enforcement services are also provided by USCG for all fireworks display events that occur within

San Diego Bay. USCG uses event-specific information to coordinate with HPD on the position and location of personnel and assets. Therefore, because of the temporary and infrequent nature of the proposed new fireworks display events, as well as the highly regulated manner in which fireworks displays are allowed to occur, the proposed new fireworks display events would not impair implementation of an adopted emergency response plan. The impacts would be less than significant.

Furthermore, as discussed in Section 4.10, *Transportation, Circulation, and Parking*, the implementation of mitigation measure **MM-TRA-1** requires compliance with the traffic-related conditions of the proposed ordinance, which require implementation of an Event Transportation and Parking Management Plan before, during, and after each proposed new fireworks display event. Implementation of **MM-TRA-1** would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle personnel, thereby reducing the potential for delay that might impede emergency response.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval to reduce potential environmental impacts, including implementation of an Event Transportation and Parking Management Plan for publicly advertised fireworks display events. The Event Transportation and Parking Management Plan would include transportation demand and parking management strategies, such as providing event traffic control and promoting the use of public transit. This would alleviate congestion around the locations of the individual existing displays and reduce the potential for delay that might impede emergency response times. Compliance with the proposed ordinance may improve the existing condition by ensuring adequate circulation and emergency access on the roadway network surrounding the existing fireworks display events. As such, the effects of the proposed ordinance on existing fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No impacts would occur.

4.6.1 Overview

This section describes the existing conditions and applicable laws and regulations for hydrology and water quality, followed by an analysis of the proposed project's potential to: (1) violate water quality standards or waste discharge requirements, (2) create or contribute runoff water that would exceed existing or planned stormwater drainage systems or provide substantial sources of polluted runoff, and (3) substantially degrade water quality. All other hydrology and water quality issues were addressed in Section IX of the Initial Study/Environmental Checklist (Appendix A) and were determined to be less than significant, including impacts on groundwater supplies, drainage patterns, place housing within a 100-year flood hazard area, and tsunamis, seiches, and mudflows. The analysis and conclusions regarding these impacts are also summarized in Chapter 6, Section 6.4, *Effects Not Found to be Significant*.

Information in this section is summarized from the *San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project Water Quality Technical Report*, which was prepared by Amec Foster Wheeler Infrastructure, Inc. in February 2017 and is provided as Appendix G and incorporated by reference herein.

Table 4.6-1 summarizes the significant impacts and mitigation measures discussed in this section.

Table 4.6-1. Summary of Significant Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-WQ-1: Surface Water Pollutant Related to Fireworks Debris for the Proposed New Fireworks Display Events	MM-WQ-1: Implementation of the Water Quality–Related Conditions of the Proposed Ordinance, which require the use of alternative fireworks, specific packaging material, best management practices, compliance with SDRWQCB General Permit, and compliance with other required permits	Significant and Unavoidable	Compliance with the water quality–related conditions of the proposed ordinance, which require the use of alternative fireworks, implementation of best management practices, compliance with SDRWQCB’s General Permits requirements and other required permits will reduce the potential for fireworks related debris to pollute surface waters. However, due to uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris impacts related to fireworks on surface waters would remain significant and unavoidable.

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-WQ-2. Surface Water Pollutant Related to Increased Human-Generated Trash and Litter for the Proposed New Fireworks Display Events	MM-WQ-2: Implementation of the Water Quality–Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter, which require additional trash receptacles and clean up at major viewing areas during publicly advertised fireworks display events	Less than Significant	Compliance with the proposed ordinance would require the fireworks operator to double the number of trash receptacles and clean up at major viewing areas, which would reduce the amount of human-generated trash and litter that could potentially enter San Diego Bay and degrade the water quality. In addition, the District maintains parks and other public areas within its jurisdiction during the Fourth of July fireworks display events, which would continue to be provided for the proposed new events. Therefore, impacts are reduced to a level less than significant.

4.6.2 Existing Conditions

Fireworks display events requiring a discretionary action by the District or operated by the District’s tenants currently occur on the Fourth of July and other days throughout the year at various locations adjacent to and in the waters of San Diego Bay and the Pacific Ocean near Imperial Beach. The existing fireworks display events are described in detail in Chapter 2, *Environmental Setting*, of this Draft EIR. Figure 2-1 shows the locations of the existing and proposed new fireworks launch sites in San Diego Bay and the Imperial Beach Oceanfront.

4.6.2.1 Surface Water Hydrology

The project area is under the regulatory authority of the San Diego Regional Water Quality Control Board (SDRWQCB). The San Diego region is divided into 11 hydrologic units (HUs) for administrative purposes. Each of the HUs flow from elevated regions in the east to lagoons, estuaries, or bays in the west and feature similar water quality characteristics and issues. With the exception of the Fourth of July Imperial Beach Fireworks Show, which takes place from the middle of the Imperial Beach Pier in the Pacific Ocean, the existing and proposed new fireworks display events that would be governed by the proposed ordinance occur adjacent to and in the waters of the San Diego Bay Watershed Management Area (WMA), which contains the Pueblo San Diego HU,

Sweetwater HU, and Otay HU, as shown on Figure 4.6-1. The Pacific Ocean shoreline is within the Tijuana River WMA.

San Diego Bay Watershed

The San Diego Bay WMA encompasses a 444-square-mile area (approximately 284,500 acres) that extends eastward from San Diego Bay for more than 50 miles to the Laguna Mountains. The WMA ranges in elevation from sea level at San Diego Bay to a maximum elevation of approximately 6,000 feet above sea level at the eastern boundary. Most of the WMA land area generally lies north of the Tijuana River WMA, south of the San Diego River WMA, west of the Anza Borrego WMA, and east of the Pacific Ocean. SDRWQCB-prepared Water Quality Control Plan for the San Diego Basin (SDRWQCB 1994) (Basin Plan) defines the San Diego Bay WMA as containing three HUs: (1) the Pueblo San Diego (Pueblo) HU, (2) the Sweetwater River (Sweetwater) HU, and (3) the Otay River (Otay) HU.

The source of most freshwater input to San Diego Bay is surface runoff from urban areas and intermittent flow from rivers and creeks during rain events. Dams and extensive use of groundwater over the past century in the Sweetwater and Otay Rivers have significantly reduced the input from these rivers to the Bay.

Pueblo San Diego Hydrologic Unit (908.00)

The Pueblo HU encompasses approximately 60 square miles and has no central stream system. The Basin Plan identifies the Pueblo HU as the smallest of the three San Diego Bay HUs, covering approximately 38,000 acres. It is the most developed and most densely populated watershed in the San Diego Bay Watershed Management Area. It contains three hydrologic areas (HAs): Point Loma (908.1), San Diego Mesa (908.2), and National City (908.3). Major water features are Chollas Creek, Paleta Creek, and San Diego Bay. Most of the water from the Pueblo HU drains to San Diego Bay, although a portion of the Point Loma HA drains directly to the Pacific Ocean.

Sweetwater River Hydrologic Unit (909.00)

The Sweetwater HU is the largest of the three San Diego Bay HUs, encompassing over 415 square miles. Three main drainage areas are included within the Sweetwater HU: Lower Sweetwater HA (Hydrologic Subareas 909.11, 909.12, and 908.32),¹ Middle Sweetwater HA (909.20), and Upper Sweetwater HA (909.30). It has four major water bodies: Sweetwater River, Sweetwater Reservoir, Loveland Reservoir, and San Diego Bay. Portions of the San Diego Bay National Wildlife Refuge, including the Sweetwater Marsh, are in the Sweetwater HU. Much of this watershed is occupied by undeveloped lands in the Cleveland National Forest, Cuyamaca Rancho State Park, and the unincorporated communities of Pine Valley, Descanso, Alpine, and the Viejas Indian Reservation. The Cleveland National Forest, Cuyamaca Rancho State Park, and Viejas Indian Reservation are regulated separately, and the Responsible Parties² do not have authority to require their participation or to implement Municipal Permit requirements.

¹ Telegraph Canyon Channel is in HSA 909.11, but drains directly to San Diego Bay rather than to the Sweetwater River. Hydrologic Subarea 908.32, while technically in the Pueblo HU, drains to the Sweetwater River, so it is considered part of the Sweetwater HU.

² In this document, the Co-permittees within the San Diego Bay Watershed Management Area and the California Department of Transportation are collectively referred to as Responsible Parties.

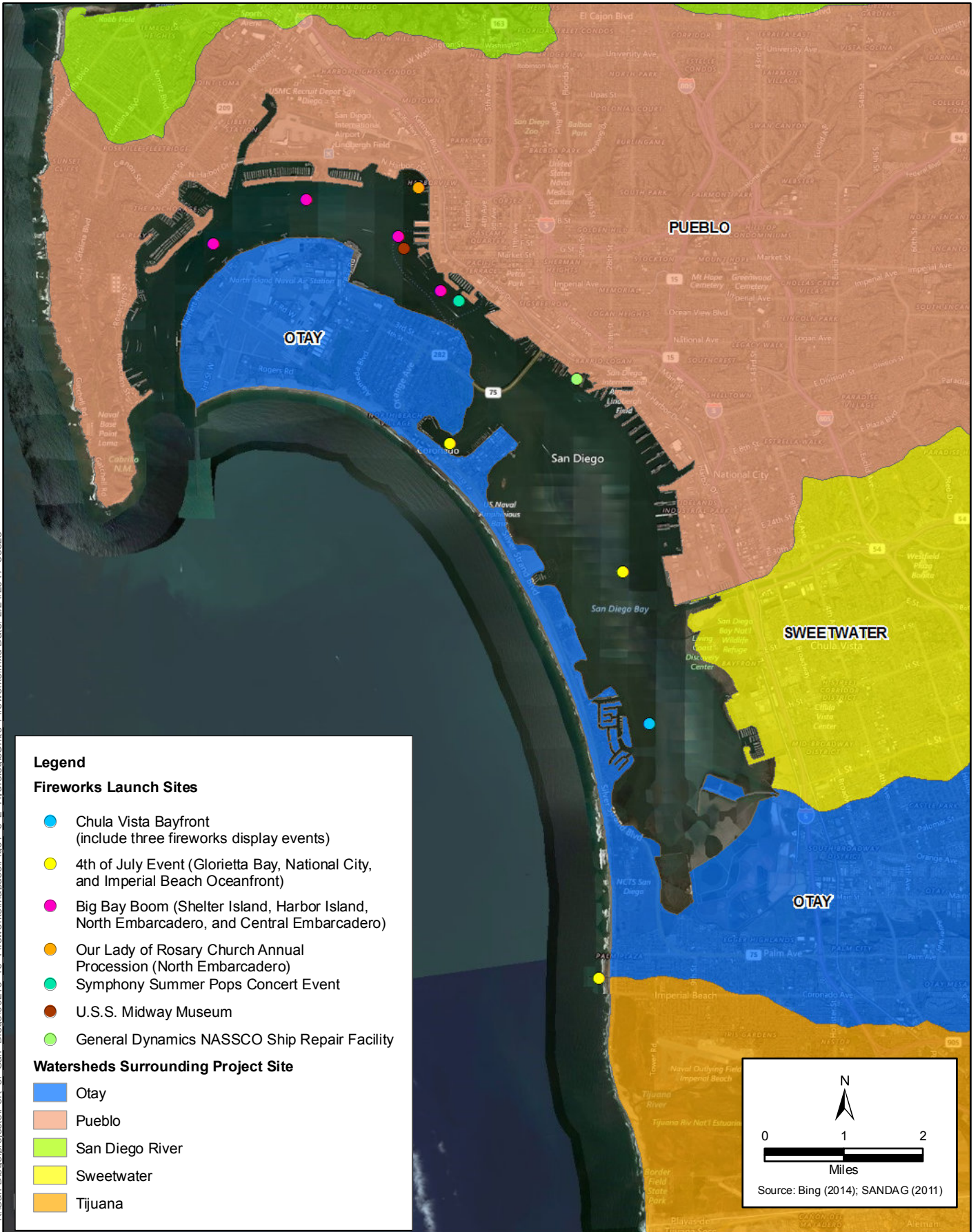


Figure 4.6-1
Hydrologic Units in the Project Area
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Otay River Hydrologic Unit (910.00)

The Basin Plan identifies the Otay HU as the second largest of the three San Diego Bay HUs. The Otay HU consists of three HAs: Coronado (910.10), Otay Valley (910.20), and Dulzura (910.30). It comprises nearly 160 square miles and includes four major water bodies: the Upper and Lower Otay Reservoirs, Otay River, and San Diego Bay. The two reservoirs supply drinking water, wildlife habitat, and recreational opportunities. The Otay HU includes portions of San Diego Bay and the San Diego Bay National Wildlife Refuge, the Rancho Jamul Ecological Reserve, the Otay Valley Regional Park, and approximately 23,000 acres that provide habitat for endangered plant and animal species as part of the San Diego County Multiple Species Conservation Program.

Table 4.6-2 shows the hierarchical structure of HU, HA, and Hydrologic Subarea.

Table 4.6-2. Project Vicinity Hydrologic Units, Hydrologic Areas, and Hydrologic Subareas

Hydrologic Unit	Hydrologic Areas	Hydrologic Subareas
Pueblo San Diego (908.00)	Point Loma (908.10)	N/A
	San Diego Mesa (908.20)	Lindbergh (908.21)
		Chollas (908.22)
	National City (908.30)	El Toyon (908.31)
Paradise (908.32)		
Sweetwater River (909.00)	Lower Sweetwater (909.10)	Telegraph (909.11)
		La Nacion (909.12)
	Middle Sweetwater (909.20)	Jamacha (909.21)
		Hillsdale (909.22)
		Dehesa (909.23)
		Galloway (909.24)
		Sequan (909.25)
		Alpine Heights (909.26)
	Upper Sweetwater (909.30)	Loveland (909.31)
		Japatul (909.32)
Viejas (909.33)		
Descanso (909.34)		
Otay River (910.00)	Coronado (910.10)	N/A
		N/A
	Dulzura (910.30)	Savage (910.31)
		Proctor (910.32)
		Jamul (910.33)
		Lee (910.34)
		Lyon (910.35)
		Hollenbeck (910.36)
Engineer Springs (910.37)		

Source: SDRWQCB 2011a

Pacific Ocean Shoreline

As mentioned, the Fourth of July Imperial Beach Fireworks Show occurs from the middle of the Imperial Beach Pier in the Pacific Ocean. The Pacific Ocean shoreline is part of the Tijuana River WMA, which covers a range of natural ecosystems. The watershed originates in the 6,000-foot-elevation, pine forest-covered mountains in east San Diego County and extends to the tidal saltwater estuary at the mouth of the Tijuana River and sandy beaches along the Pacific Ocean shoreline in the west.

4.6.2.2 Surface Water Quality

San Diego Bay and the Pacific Ocean are the receiving water bodies for existing fireworks display events, while the Bay would be the receiving water body for the proposed new fireworks display events. The surface water quality of these water bodies is described below.

San Diego Bay

Tides in San Diego Bay are classified as mixed diurnal/semi-diurnal, with a dominant semi-diurnal component. Generally, San Diego Bay has two low and two high tides per day, on an approximately two-week spring-neap tidal cycle that is associated with the phase of the moon. Tidal exchange in San Diego Bay exerts control over flushing, salt and heat balances, and water residence time. The ebb and flow of tides mix ocean and San Diego Bay waters, and produce currents, induce changes in salinity, and alternately expose and inundate portions of the shoreline. Tidal flushing and mixing are important for maintaining water quality and moderating water temperature that has been affected by exchange with the atmosphere or by heating.

Water quality in San Diego Bay is influenced by processes and activities that take place within the San Diego Bay and the watershed HUs, including through tidal flushing and currents, as well as from freshwater inflows. Water quality characteristics (e.g., salinity, temperature, and dissolved oxygen) form a gradient within San Diego Bay: waters in the northern Bay have conditions similar to those of the ocean; the central Bay is intermediate in character; and the southern Bay is strongly affected by shallow depths, fresh water inflows, and insulation. The turbidity (i.e., the amount of particulate matter in suspension in the water column) of San Diego Bay waters is affected by phytoplankton blooms; inputs of fine sediments from surface runoff during and after storms; and sediment resuspension by winds, waves, and human activities. Consequently, an increase in turbidity can decrease light penetration and the level of primary biological production. Turbidity in San Diego Bay varies both by time and by location.

Pacific Ocean

The Pacific Ocean shoreline in the vicinity of the Fourth of July Imperial Beach Fireworks Show lies within the Southern California Bight. Oceanographic conditions within the Southern California Bight are influenced by the Southern California Countercurrent, which is a large-scale eddy of the California Current, and the California Undercurrent, which is a northward-flowing current that occurs inshore and beneath the California Current. Local-scale current patterns are complex and reflect the effects of local winds, tidal circulation, regional climatic events, and seasonal cycles in seawater properties and stratification.

There are four primary sources for nearshore currents: (1) wave-driven currents, (2) wind-driven surface currents moving approximately in the direction of the wind, (3) tidal currents that trend parallel to shore and switch direction with the falling or rising tide, and (4) currents near the mouth of coastal lagoons that result from river flow and/or tidal exchange within coastal wetlands. There are two types of surf zone currents: longshore currents and onshore/offshore currents.

Water quality within the Pacific Ocean reflects natural seasonal patterns. During late spring through fall, solar heating preferentially warms the ocean surface, resulting in depth-related gradients in water temperature (thermocline). Strong density gradients (pycnocline), related primarily to the water temperature changes with depth, restrict vertical mixing of the water column, which strongly affects the depth distribution of most water quality parameters. During winter and early spring, the strength of the vertical stratification decreases in response to weaker solar heating, mixing by winter storms, and upwelling.

Upwelling is initiated when northern winds displace surface waters offshore, resulting in replacement by colder, deeper waters with lower dissolved oxygen concentrations and higher salinity and nutrient concentrations. Upwelling is generally present from late March through July in the San Diego County area. Downwelling occurs when southern winds push offshore waters toward the shore, thus pushing nearshore surface waters down and causing warmer waters and lower salinity than are typical for deeper waters. Seasonal upwelling and downwelling affect marine water quality along the San Diego coast.

Additionally, stormwater runoff from coastal rivers and streams adds freshwater that can cause large turbidity plumes and reductions in near-surface salinity up to several miles from shore. River and stream discharges also add suspended sediments, nutrients, bacteria and other pathogens, and chemical contaminants to nearshore waters.

Beneficial Uses for Surface Waters

SDRWQCB has region-wide and water body-specific beneficial uses, and has set numeric and narrative water quality objectives for several pollutants and parameters for specific surface waters in its region. The beneficial uses of the receiving surface waters and water bodies for existing and proposed new fireworks display events—Pacific Ocean and San Diego Bay—are shown in Table 4.6-3.

Table 4.6-3. Beneficial Uses of Receiving Surface Waters or Water Bodies for Existing and Proposed New Fireworks Display Events

Water Body	Designated Beneficial Uses
Pacific Ocean	Water contact recreation, non-contact recreation, wildlife habitat, industrial service supply, navigation, commercial and sport fishing, preservation of biological habitats of special significance, rare, threatened or endangered species, marine habitat, migration of aquatic organisms, spawning, reproduction, and/or early development, shellfish harvesting and aquaculture.
San Diego Bay	Water contact recreation, non-contact recreation, wildlife habitat, industrial service supply, navigation, commercial and sport fishing, preservation of biological habitats of special significance, rare, threatened or endangered species, estuarine habitat, marine habitat, migration of aquatic organisms, spawning, reproduction, and/or early development and shellfish harvesting.

Source: SDRWQCB 2011a

San Diego Bay sediments are impaired for several constituents. A total of 172 acres of San Diego Bay are designated as impaired, containing toxic sediments and/or degraded benthic communities due to both point and nonpoint sources. The principal constituents of concern for surface water quality in the project area include chlorinated pesticides, polycyclic aromatic hydrocarbon (PAH), polychlorinated biphenyl (PCB), and heavy metals.

The Pacific Ocean shoreline near the site of the Fourth of July Imperial Beach Fireworks Show (i.e., Imperial Beach Pier) has one Clean Water Act (CWA) Section 303(d) listing for a chemical contaminant (PCBs in fish tissue), but no listings for either toxicity or benthic community effects. The Pacific Ocean shoreline, Tijuana HU, is also on the Section 303(d) list for bacteria contamination.

4.6.3 Applicable Laws and Regulations

4.6.3.1 Federal

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year.

Additionally, FEMA has developed requirements and procedures for evaluating earthen levee systems and mapping the areas affected by those systems. Levee systems are evaluated for their ability to provide protection from 100-year flood events, and the results of this evaluation are documented in the FEMA Levee Inventory System. Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage.

Clean Water Act

The primary goals of the CWA are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The CWA of 1972 (33 U.S. Code [USC] 1251–1387) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. The federal CWA of 1977 (33 USC 1251 et seq.), which amended the federal Water Pollution Control Act of 1972, established the basic structure for regulating discharges of pollutants into the waters of the United States (not including groundwater). Under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained and implemented within compliance. In addition, the CWA requires the states to adopt water quality standards for receiving water bodies and to have those standards approved by EPA. Water quality standards consist of designated beneficial uses for

a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality criteria necessary to support those uses.

Section 303: Impaired Water Bodies (303(d) list) and Total Maximum Daily Loads

Under Section 303(d) of the CWA, the State Water Resources Control Board (SWRCB) is required to develop a list of impaired water bodies that do not meet water quality standards (promulgated under the National Toxics Rule [NTR] or the California Toxics Rule [CTR]) after the minimum technology-based effluent limitations have been implemented for point sources. Lists are to be priority ranked for development of a total maximum daily load (TMDL). A TMDL is a calculation of the total maximum amount of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The California RWQCBs and EPA are responsible for establishing TMDL waste-load allocations and incorporating improved load allocations into water quality control plans, NPDES permits, and waste discharge requirements. Section 305(b) of the CWA requires that states assess the status of water quality conditions within the state in a report to be submitted every 2 years.

Both CWA requirements are being addressed through the development of a 303(d)/305(b) Integrated Report, which would address both an update to the 303(d) list and a 305(b) assessment of statewide water quality. SWRCB developed a statewide 2010 California Integrated Report based upon the Integrated Reports from each of the nine RWQCBs. The 2010 California Integrated Report was approved by the SWRCB at a public hearing on August 4, 2010, and EPA issued its final decision and approval on October 11, 2011.

All of the 303(d) listed impaired waters with potential to be affected by the proposed project would be evaluated as part of this Draft EIR, and mitigation measures would be implemented if necessary to protect waters from further impairment.

Section 303: List of Water Quality Limited Segments

SWRCB approved the 2010 Integrated Report (CWA Section 303(d) List/305(b) Report) on August 4, 2010 (SWRCB 2014). On November 12, 2010, EPA approved the 2010 California 303(d) List of Water Quality Limited Segments.

The following is summary of San Diego Bay and Pacific Ocean Section 303(d)-listed locations for sediment chemistry, water chemistry, benthic community effects, or sediment toxicity impairments only for areas near fireworks display events. The bacterial impairments listed below are not a constituent of concern for fireworks display events and are provided for informational purposes only.

- San Diego Bay: 303(d)-listed for impaired Ocean, Commercial, and Sport Fishing (COMM) (PCBs)
- San Diego Bay Shoreline, North of 24th Street Marine Terminal: 303(d)-listed for impaired marine habitat (MAR) (benthic community effects and sediment toxicity)
- San Diego Bay Shoreline, Seventh Street Channel: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity)
- San Diego Bay Shoreline, at Americas Cup Harbor: 303(d)-listed for impaired Estuarine Habitat beneficial use (EST) (copper)
- San Diego Bay Shoreline, near Submarine Base: 303(d)-listed for impaired MAR (benthic community effects, sediment toxicity, and toxicity)

- San Diego Bay, Shelter Island Yacht Basin: 303(d)-listed for impaired EST (dissolved copper)
- San Diego Bay Shoreline, 32nd Street San Diego Naval Station: 303(d) listed for impaired MAR (benthic community effects and sediment toxicity)
- San Diego Bay Shoreline, at Harbor Island (East Basin): 303(d) listed for EST (copper)
- San Diego Bay Shoreline, at Harbor Island (West Basin): 303(d)-listed for impaired EST (copper)
- San Diego Bay Shoreline, at Marriott Marina: 303(d)-listed for impaired EST (copper)
- San Diego Bay Shoreline, at Spanish Landing: 303(d)-listed for impaired Contact Water Recreation (REC-1) and Shellfish Harvesting (SHELL) (total coliform)
- San Diego Bay Shoreline, Between Sampson and 28th Streets: 303(d)-listed for impaired MAR (copper and PAHs), COMM (mercury and PCBs), and warm freshwater habitat (zinc)
- San Diego Bay Shoreline, Downtown Anchorage: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity)
- San Diego Bay Shoreline, near Chollas Creek: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity)
- San Diego Bay Shoreline, near Coronado Bridge: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity)
- San Diego Bay Shoreline, near Switzer Creek: 303(d)-listed for impaired MAR (chlordan and PAHs)
- San Diego Bay Shoreline, Vicinity of B Street and Broadway Piers: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity) and REC 1 and SHELL (total coliform)
- San Diego Bay Shoreline, Chula Vista Marina: 303(d)-listed for impaired EST (copper)
- Pacific Ocean Shoreline, Imperial Beach Pier: 303(d)-listed for impaired REC 1 (fecal coliform and total coliform) and COMM (PCBs)³
- San Diego Bay Shoreline, at Coronado Cays: 303(d)-listed for impaired EST (copper)
- San Diego Bay Shoreline, at Glorietta Bay: 303(d)-listed for impaired EST (copper)

National Pollutant Discharge Elimination System

The NPDES permit program was established by the CWA to regulate discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal and industrial discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, or other activities. Permits issued pursuant to the NPDES are implemented at the state and local levels.

³ This listing (Decision ID 5535) is based upon PCB levels in fish tissue (a perch species). One station was sampled on Imperial Beach Pier in either March 1999 or April 2000. The tissue sample result exceeded the Office of Environmental Health Hazard Assessment Screening Value of 20 nanograms per gram.

Oil Pollution Act

The Oil Pollution Act (OPA) was signed into law in August 1990, largely in response to rising public concern following the Exxon Valdez oil spill in Prince William Sound, Alaska. The OPA improved the nation's ability to prevent and respond to such incidents by expanding the federal government's ability to respond with funding and other resources. The OPA also created the national Oil Spill Liability Trust Fund, which funds responses to spill incidents.

In addition, the OPA provided new requirements for contingency planning, by both government and industry; it expanded the National Oil and Hazardous Substances Pollution Contingency Plan in a three-tiered approach: (1) the federal government must direct all public and private responses for certain types of spill events. (2) area committees (composed of federal, state, and local government officials) must develop detailed and location-specific area contingency plans. and (3) owners or operators of vessels and certain facilities that pose a serious threat to the environment must prepare their own facility response plans.

The OPA also increased penalties for regulatory noncompliance, broadened the response and enforcement authorities of the federal government, and preserved state authority to establish laws governing oil spill prevention and response.

National Toxics Rule and California Toxics Rule

EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. Approximately 40 NTR criteria are also applied in California.

On May 18, 2000, EPA adopted the CTR. This rule prescribed new toxics criteria for California, incorporated the previously adopted NTR criteria that were applicable in the state, and specified water quality criteria for priority pollutants. The CTR was amended on February 13, 2001.

Endangered Species Act

The Endangered Species Act does not authorize any action that results in the taking of a threatened or endangered species or any action that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code Sections 2050 to 2097) or the Federal Endangered Species Act (16 USC 1531–1544). The Endangered Species Act requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the Endangered Species Act.

United States Coast Guard Marine Safety Program

The U.S. Coast Guard (USCG), pursuant to 33 Code of Federal Regulations (CFR) 100, implements the Marine Safety Program, which is designed to ensure the safety of vessels and recreational boaters on navigable U.S. waters during fireworks display events. USCG issues marine event permits to sponsors of public fireworks display events that have the potential to endanger marine safety. An application for approval of marine event must be submitted to USCG for approval no later than 135 days prior to the event if the applicant does not meet criteria specified in 33 CFR 100.15(c), or 60 days prior to the event if the applicant does meet the criteria. After approving plans for a fireworks display event, USCG is authorized to promulgate special local regulations as necessary to ensure public safety on navigable waters immediately prior to, during, and immediately after the

approved fireworks display event. Such regulations may include a restriction on or control of the movement of vessels through a specified fireworks display event area.

Department of Homeland Security Chemical Facility Anti-Terrorism Standards

On October 4, 2006, the U.S. Department of Homeland Security (DHS) Appropriations Act of 2007 was signed into law. Under Section 550 of the Appropriations Act of 2007, DHS finalized chemical facility anti-terrorism standards on November 2, 2007 (Perry et al. 2007). Facilities possessing any of the 335 chemicals of interest in quantities at or above screening threshold quantities must complete an electronic “top screen” questionnaire that determines whether further assessments and security plans should be developed to ensure safety. The information should allow DHS to determine the potential for and possible consequences of a terrorist attack, and to assess the possible risks if dangerous chemicals are stolen. Pyrotechnic technicians and businesses act as chemical storage facilities and use and store some of the chemicals listed in Part 27 of the standards, and so are subject to DHS review. Operators may not use dangerous or explosive chemicals not on the list without DHS review and consideration of safety.

4.6.3.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (embodied in the California Water Code) of 1969 (Porter Cologne Act) is California’s statutory authority for the protection of water quality. Under the Porter-Cologne Act, the state must adopt water quality policies, plans, and objectives that protect its waters for the use and enjoyment of the people. Under the California Water Code, the State of California is divided into nine regions governed by RWQCBs that, under the guidance and review of SWRCB, implement and enforce provisions of the California Water Code and the CWA. The project site is located in Region 9, the San Diego region, and governed by SDRWQCB.

The Porter-Cologne Act also requires waste dischargers to notify the RWQCBs of their activities through the filing of Reports of Waste Discharge and authorizes SWRCB and the RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, or other approvals.

Section 13050 of the California Water Code defines what is considered pollution, contamination, or nuisance. Briefly defined, *pollution* means an alteration of water quality such that it unreasonably affects the beneficial uses of water. *Contamination* means an impairment of water quality to the degree that it creates a hazard to public health. *Nuisance* is defined as anything that is injurious to health, is offensive to the senses, or is an obstruction to property use, and which affects a considerable number of people.

State Implementation Policy

On March 2, 2000, SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*. This State Implementation Policy (SIP) applies to discharges of toxic pollutants into the inland surface waters, enclosed bays, and estuaries of California subject to regulation under the state’s Porter-Cologne Act and the federal CWA. Such regulation may occur through the issuance of NPDES permits or other relevant regulatory approaches. The SIP establishes a standardized approach for permitting discharges of toxic

pollutants to non-ocean surface waters in a manner that promotes statewide consistency. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. The RWQCB's General Permit implements the requirements of the SIP with regard to potential water quality-related impacts associated with fireworks display events over or near water bodies.

Office of the California State Fire Marshal

California's Fireworks Law, which was passed in 1938, established the Office of the State Fire Marshal as the fireworks classification authority in the state. The state's Explosives Law authorizes the California State Fire Marshal to adopt regulations for the safe use, handling, storage, and transportation of fireworks in California. Fireworks are classified through laboratory analysis, field examinations, and test firing of fireworks items. The State Fire Marshal requires licensing of all pyrotechnic operators, manufacturers, importer-exporters, wholesalers, retailers, and public display companies. Pyrotechnic operators who discharge fireworks at public displays or launch high-powered and experimental rockets must also pass a written examination and provide proof of experience. The laws and regulations governing the transportation, use, and storage of fireworks in California are contained in the following.

- State Fireworks Law, California Health and Safety Code, Sections 12500–12728
- State Fireworks Regulations, California Code of Regulations (CCR) Title 19, Chapter 6
- Storage, CCR Title 27, Part 55, Subpart K
- Hazardous Materials Transportation, CCR Title 13

California State Department of Toxic Substances Control

In light of the risks to public health and the environment posed by perchlorate releases, the California Legislature adopted the Perchlorate Contamination Prevention Act of 2003, amending Chapter 6.5 of Division 20 of the Health and Safety Code and requiring the California Department of Toxic Substances Control to adopt regulations specifying best management practices (BMPs) for perchlorate and perchlorate-containing substances. The perchlorate BMP regulations were adopted on December 31, 2005, and are contained in CCR Title 22, Social Security Division 4.5, Environmental Health Standards for the Management of Hazardous Waste Chapter 33, Best Management Practices for Perchlorate Materials Article 1, Sections 67384.1–67384.11. In Section 67384.8(c), Special Best Management Practices for Flares and Pyrotechnic Perchlorate Materials, these regulations provide that: “[w]ithin twenty-four (24) hours of a public display of fireworks or the use of dangerous fireworks, the pyrotechnics operator, in addition to complying with CCR Title 19, Section 1003, shall, to the extent practical, collect any stars and un-ignited pyrotechnic material found during the required inspection of the entire firing range.”

4.6.3.3 Local

San Diego Integrated Regional Water Management Plan

In the San Diego region, there is a complex array of water supply, water management, water quality protection, pollution prevention, habitat protection, flood protection, and recreational needs. Water management plans have been developed within the region to address these needs. However, jurisdictional and water management conflicts exist among the individual water management plans,

and many challenges exist to identifying, addressing, and resolving water management issues. The Integrated Regional Water Management Plan (IRWMP) was developed in 2007 to bring stakeholders together and coordinate a regional approach to water management issues, pursuant to statewide IRWMP Guidelines established by SWRCB and the State of California Department of Water Resources in 2004 and updated in 2007. In addition, the 2013 Final Draft IRWMP is now available.

Water Quality Control Plan for the San Diego Basin

RWQCBs are required to develop and periodically update a water quality control plan or basin plan (SDRWQCB 2011b). A water quality control plan establishes water quality objectives for the ground and surface waters of the region and includes an implementation plan describing the actions by SDRWQCB and others that are needed to achieve and maintain these water quality objectives. The project area falls under the Water Quality Control Plan for the San Diego Basin.

As defined in the Porter-Cologne Act, water quality objectives are the established limits or levels of chemical constituents allowable in water (SDRWQCB 2011b). The designation of water quality objectives must satisfy all of the applicable requirements of the Porter-Cologne Act and the CWA. Through water quality objectives, SDRWQCB provides for the reasonable protection of beneficial uses, considering existing water quality, environmental, and economic factors. Beneficial uses applicable to the receiving waters within the San Diego region are listed in Table 4.6-4.

Table 4.6-4. San Diego Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use
Various	Coastal Waters (Pacific Ocean, Enclosed Bays and Estuaries, Harbors, and Lagoons)	<ul style="list-style-type: none"> • Industrial service supply (IND) • Navigation (NAV) • Contact water recreation (REC-1) • Non-contact water recreation (REC-2) • Commercial and sport fishing (COMM) • Biological habitats of special significance (BIOL) • Estuarine habitats (EST) • Wildlife habitat (WILD) • Preservation of rare, threatened, or endangered species (RARE) • Marine habitat (MAR) • Aquaculture (AQUA) • Migration of aquatic organisms (MIGR) • Spawning (SPWN) • Shellfish harvesting (SHELL)
Various	Inland Surface Waters	<ul style="list-style-type: none"> • Municipal and domestic supply (MUN) • Agricultural supply (AGR) • Industrial service supply (IND) • Industrial process supply (PROC) • Groundwater recharge (GWR) • Hydropower generation (POW) • Contact water recreation (REC-1) • Non-contact water recreation (REC-2) • Biological habitats of special significance (BIOL) • Cold freshwater habitat (COLD) • Wildlife habitat (WILD) • Spawning (SPWN) • Preservation of rare, threatened, or endangered species (RARE)

SDRWQCB Municipal Stormwater Permit (Order No. R9-2013-0001)

The Municipal Stormwater Permit (Order No. R9-2013-0001 as amended by Order Nos. R9-2015-001 and R9-2015-0100) is an NPDES permit issued that requires the owners and operators of municipal separate storm sewer systems (MS4s) within the San Diego region to implement management programs to limit discharges of pollutants and non-stormwater discharges to and from their MS4 from all phases of development. The Municipal Stormwater Permit requires the District and other “co-permittees” to develop watershed based Water Quality Improvement Plans (WQIPs). The Municipal Stormwater Permit emphasizes watershed program planning and program outcomes. The intent of the Permit is to enable each jurisdiction to focus its resources and efforts to: reduce pollutants in stormwater discharges from its MS4, effectively prohibit non-stormwater discharges to its MS4, and achieve the interim and final [Water Quality Improvement Plan] numeric goals.

National Pollutant Discharge Elimination System Permit (General Permit)

The General NPDES Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States in the San Diego region from the Public Display of Fireworks (No. R9-2011-0022) (General Permit) covers the point-source discharge of residual firework pollutant waste to surface waters, and requires users of fireworks to obtain coverage under the General Permit prior to the public display of fireworks. A copy of the General Permit, the Notice of Intent, and post-event reporting forms are included as attachments to Appendix G.

CWA Section 301(a) broadly prohibits the discharge of any pollutant to waters of the United States, except in compliance with an NPDES permit. Fireworks residue waste discharged into surface waters constitutes discharge of a pollutant from a point source within the meaning of the CWA. Therefore, coverage under an NPDES permit is required before residual firework pollutant wastes can be lawfully discharged.

EPA and SDRWQCB have classified these types of discharges as minor discharges. In accordance with Section 2200, Title 23 of the California Code of Regulations, discharges regulated by the Order are determined to be Category 3. The threat to water quality and complexity of the discharge is determined to be Category 3C.⁴

Section 122.48 of the NPDES permit program requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code Sections 13267 and 13383 authorize RWQCBs to require technical and monitoring reports. The General Permit provides monitoring and reporting requirements to implement federal and state requirements.

The current General Permit was valid until May 31, 2016. Following the expiration date, the provisions set forth are to re-evaluated and re-established or updated as needed. Dischargers covered under this order at the time of expiration would continue to be covered until coverage becomes effective under a reissued permit. Upon reissuance of this order by the RWQCB, dischargers may need to seek re-enrollment under the revised order. Discharger categories and monitoring requirements are discussed in more detail in the General Permit contained in Appendix G.

SeaWorld San Diego (SeaWorld) is currently the only Category 1 discharger in the San Diego region. SeaWorld is required to conduct a higher level of monitoring and reporting than Category 2 dischargers because of the high number of events it conducts each year adjacent to Mission Bay.

Category 2 entities are all other dischargers of fireworks of any net explosive weight from a single event or multiple events to any surface water of the United States within the San Diego region.

Category 1 Dischargers

All Category 1 dischargers monitor the receiving water body to assess compliance with receiving water limits. The compliance monitoring may be performed independently by individual dischargers, collaboratively through participation in a coalition that monitors San Diego Bay or Mission Bay, or both, as determined by SDRWQCB. Monitoring of both sediment and water quality is

⁴ Category 3C is defined as “Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses” and “dischargers having no waste treatment systems or that must comply with best management practices” (California Code of Regulations, Title 23, Division 3, Chapter 9, Waste Discharge Reports and Requirements, Article 1. Fees).

required, as outlined in the General Permit Attachment E, Section IX.C. Water quality testing includes chemistry analysis of (at a minimum) conventional nutrients (including total phosphorus and perchlorate), semivolatile organic compounds (bis-phthalate), and metals (total and dissolved). Sediment testing includes chemical analysis, toxicity testing, and assessment of benthic community condition, no less than once every 3 years.

Category 2 Dischargers

Category 2 dischargers are not required to perform monitoring unless otherwise determined by SDRWQCB, based on the considerations outlined in General Permit, Attachment E, Section IX.B.2. Best Management Practices Required by the General Permit.

All dischargers (i.e., fireworks display event organizers) covered under the General Permit are required to prepare a Fireworks Best Management Practices Plan (FBMPP). The FBMPP can be in any of the following forms.

1. An official document or manual with full descriptions, figures, etc.
2. A brief letter or notice describing or listing the BMPs to be implemented for health and safety at the event.
3. A map or image describing and indicating where BMPs will be implemented before, during, and after the event.

The information needed to prepare an FBMPP is provided as an attachment to the *San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project Water Quality Technical Report* (Appendix G).

Reporting

The General Permit contains the following reporting requirements.

- **Public Fireworks Display Event Log.** Dischargers shall maintain a written log for each public fireworks display event containing the information as described in Section V.C. of the General Permit. The log shall be completed within 5 days following each public fireworks display event and shall be made available to SDRWQCB upon request.
- **Post Firework Display Event Reporting.** No later than 30 calendar days following each public fireworks display event, the discharger shall complete the Public Display of Fireworks Post Event Report Form and make it available to SDRWQCB upon request. A copy of the Public Display of Fireworks Post Event Report Form is provided as an attachment to Appendix G.

Compliance

As stated in the General Permit, compliance is determined as follows.

This Order requires the use of minimum BMPs to control and abate the discharge of pollutant wastes from public fireworks events to surface waters in the San Diego Region. Proper implementation of the BMPs will assure the protection of water and sediment quality within the receiving waters. Dischargers enrolled under this Order are expected to comply with all water and sediment quality objectives through the implementation of BMPs. Compliance will be determined by evaluating the proper implementation of the minimum BMPs and their effectiveness in preventing and minimizing pollutant waste loading from public fireworks events to surface waters. Compliance will also be evaluated using information obtained under the monitoring and reporting program of this Order.

San Diego Bay Watershed Water Quality Improvement Plan

The Municipal Stormwater Permit requires the development of the San Diego Bay WQIP. The purpose of the WQIP is to guide the District and other Phase I Municipalities' Jurisdictional Runoff Management Plans (JRMPs) toward improving water quality in MS4 discharges and receiving waters. In the WQIP, priorities and goals are established and each jurisdiction identified strategies to assist in attaining the goals. This approach establishes the foundation that the District uses to develop and implement its JRMP. The District implements the WQIP in collaboration with other local agencies that have jurisdiction within the San Diego Bay Watershed Management Area, which comprises three hydrologic units: Pueblo San Diego, Sweetwater River, and Otay River.

Jurisdictional Runoff Management Plan

Under the Municipal Stormwater Permit, each jurisdiction is to prepare a JRMP. Each JRMP must contain a component that addresses issues related to construction activities and a component that addresses issues related to existing development. Additionally, each co-permittee prepares and submits an annual report that describes the implementation of programs and strategies to reduce the discharge of pollutants of concern to the MS4 and receiving waters to the maximum extent practicable.

The District's JRMP serves as an informational document that provides an overall account of the program to be conducted by the District during the 5-year life of the Municipal Permit. The District's JRMP has been developed to meet the conditions of the Municipal Permit and to assist the District in achieving the goals identified in the WQIP. District-specific WQIP-based strategies have been incorporated into the JRMP. The JRMP program's focus is on controlling stormwater discharges to the MS4 with the overall goal of achieving receiving water quality improvements. The JRMP utilizes District-specific jurisdictional activities as well as watershed-based strategies. Enforcement of the JRMP helps to prevent stormwater pollutants from entering into the local storm drains and ultimately San Diego Bay.

San Diego Harbor Safety Plan

The San Diego Harbor Safety Plan is designed to provide mariners using the waters of San Diego Bay an up-to-date guide to critical navigation issues that will enhance vessel safety, with the ultimate goal of pollution prevention and protection of the region's valuable resources. This plan has been developed by the San Diego Harbor Safety Committee as mandated in the California Oil Spill Prevention and Response Act of 1990 (OSPR Act) (Government Code Sections 8574.1 et seq.). The goals of the OSPR Act are to improve the prevention, removal, abatement, response, containment, clean up, and mitigation of oil spills in the marine waters of California. The OSPR Act and its implementing regulations (14 CCR 800-802) created harbor safety committees for the major harbors of California to "plan for the safe navigation and operation of tankers, barges, and other vessels within each harbor" by preparing "a harbor safety plan, encompassing all vessel traffic within the harbor."

The plan sections include the following.

- **Emergency Response Procedures.**
- **Best Maritime Practices.**
- **Geographic Boundaries.** A detailed description of the geographical boundaries of the harbor.

- **Harbor Conditions.** A description of existing and expected conditions of weather, tidal ranges, and other factors.
- **Aids to Navigation and Navigational Hazards.** An evaluation and list of the aids to navigation in the harbor, and list of navigational hazards.
- **Anchorage and Anchorage Management.** A description of the existing anchorages and any limitations to those anchorages.
- **Communications.** A review and evaluation of the adequacy of current ship-to-ship and ship-to-shore communications used in the harbor area.
- **Vessel Traffic Patterns.** A description of the types of vessels that call on the ports or facilities within the harbor area, and an assessment of current safety issues.
- **Tug Escort/Tug Assist.** A description of the usage of tug escorts in the harbor, including a procedure for a case-by-case determination of need, based on specific criteria.
- **Vessel Traffic Service.** A description of the San Diego Marine Information Systems for the harbor area.
- **Bridge Management Requirements.** An assessment of the physical limitations affecting vertical and horizontal clearances.
- **Competitive Aspects.** An identification and discussion of the economic impacts of implementing the provisions of the plan.
- **Project Funding.**
- **Enforcement.** An analysis of enforcement, and suggested mechanisms to ensure that the provisions of the plan are fully and uniformly enforced with regularity.
- **Harbor Safety Committee Recommendations and Accomplishments.** Includes Recommendations and actions taken to implement recommendations.
- **Implementation.** Provides an overview of implementation avenues for the recommendations contained in the Harbor Safety Plan.
- **Applicable Regulations and Guidelines.** Includes Underkeel Clearance Guidelines, Non-Tank Oil Spill Contingency Plan regulations, and Tug Escort regulations.
- **Miscellaneous.** Pilotage Evaluation Report, Ballast Water Regulations, Limited Visibility Guidelines, and Underwater Pipelines.

4.6.4 Project Impact Analysis

4.6.4.1 Methodology

The proposed new fireworks display events would occur adjacent to or in the waters of San Diego Bay along the National City and Chula Vista Bayfronts; therefore, these activities could result in potential impacts on the ambient water quality of the Bay. Potential impacts on surface water quality include: (1) activities associated with the setup, deployment, and demobilization of fireworks launch features (e.g., barges and tugs); (2) residual fireworks-related chemicals falling on surface waters; and (3) discharge of paper and other debris items that may fall into surface waters

during the launch and detonation operations. Impacts of the proposed new fireworks display events on surface water quality were analyzed using available information on potential existing sources of pollution and water quality conditions in the project study area. These conditions were then compared to potential project-related sources of pollution during proposed new fireworks display events, such as combustion residue, airborne particulates, chemical pollutants, and debris such as paper, cardboard, wires, fuses, and plastic. Because fireworks display events do not currently occur along the National City and Chula Vista Bayfronts, no water quality data could be collected to assess the potential water quality impacts associated with these proposed new displays. However, the existing Big Bay Boom and SeaWorld fireworks display events monitoring programs have both conducted post-event receiving water monitoring in coastal water bodies. This water quality monitoring provides the most relevant information to assess potential effects of fireworks on surface waters in the San Diego Bay region. Therefore, to understand the potential water quality impacts associated with the proposed new fireworks display events, the results of the Big Bay Boom and SeaWorld water quality monitoring were utilized to identify potential project-related water quality impacts. Additionally, information was gathered by conducting literature searches and contacting SDRWQCB.

Potential water quality impacts associated with the proposed new fireworks display events were evaluated by comparing post-fireworks display event water quality monitoring results for the Big Bay Boom and SeaWorld fireworks display events to (1) ambient (pre-show) conditions, (2) applicable water quality standards, and (3) findings of scientific studies and monitoring programs. Receiving waters with CWA Section 303(d) impaired water quality were identified, along with the impairment (pollutant/stressor) and an indication of whether the impairment has the potential to be further affected by the proposed new fireworks display events.

4.6.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining the significance of impacts associated with hydrology and water quality resulting from implementation of the proposed project. The determination of whether a hydrology and water quality impact would be significant is based on the professional judgment of the District as Lead Agency supported by the recommendations of qualified personnel at ICF, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following.

1. Violate any water quality standards or waste discharge requirements.
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on or off site.
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site, substantially affecting the existing environment.
5. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
6. Otherwise substantially degrade existing water quality.
7. Place housing within a 100-year flood hazard area such that the existing environment is substantially affected.
8. Place within a 100-year flood hazard area structures that would impede or redirect flood flows such that the existing environment is substantially affected.
9. Expose people who are already present or structures already in existence to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
10. Contribute to inundation by seiche, tsunami, or mudflow.

As discussed in the Initial Study/Environmental Checklist Section IX (Appendix A), Thresholds 2, 3, 4, and 7 through 10 are not included in the analysis below, as it was determined that the proposed project would not result in significant impacts related to groundwater supplies, drainage patterns, housing being placed within flood hazard areas, people or structures being exposed to harm or damage from flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, and mudflow. Those conclusions and the rationale that supports them are summarized in Chapter 6, Section 6.4, *Effects Not Found to be Significant*. Therefore, only Thresholds 1, 5, and 6 are discussed in the impact analysis that follows.

4.6.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not violate any water quality standards or waste discharge requirements.

Threshold 6: Implementation of the proposed project would otherwise substantially degrade water quality.

Impact Discussion

Potential Impacts of Fireworks Chemical Residues on Surface Waters

Water Quality Testing for Existing Fireworks Display Events

Fireworks display events conducted over water have the potential to affect surface water quality in a number of ways, including from chemical residues that might fall back into surface waters during

and after the fireworks display event and discharge of fireworks-related debris into surface waters from the launch sites and following shell detonation.

In general, most aerial firework shells typically consist of a cylindrical or spherical cartridge, usually constructed of paper, plastic, or cardboard, and may include some plastic or paper internal components used to compartmentalize chemicals within the shell. Most of the incendiary elements and shell casings burn up in the atmosphere; however, portions of the casings and some internal structural components and chemical residue fall back to the ground or receiving water bodies. A firework combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris such as paper, plastic, cardboard, wires, and fuses. This combustion residue and unignited pyrotechnic material, including duds and misfires, can fall into surface waters. The results of studies that have analyzed the potential effects of existing fireworks display events on water quality within San Diego Bay, as well as other locations in the San Diego region and the United States, are detailed below.

Big Bay Boom Monitoring Program

While no water quality monitoring is required for the Big Bay Boom per the requirements of the General Permit for a Category 2 discharger (see Section 4.6.3, *Applicable Laws and Regulations*), voluntary pre- and post-show water quality monitoring has been conducted annually for the Big Bay Boom fireworks display event since 2013 by the fireworks organizer. For consistency, the Big Bay Boom water quality monitoring program has used the same list of fireworks-related chemicals of concern identified for Category 1 dischargers in the General Permit.⁵ The 2013–2015 monitoring efforts included collection of post-event samples after the Fire Marshal gave the “all-clear” signal (typically 20 minutes following the fireworks display event). For the 2016 monitoring program, pump systems were deployed directly on the downwind side of two fireworks barges that collected samples immediately (within 1 to 2 minutes) following the end of the fireworks display event.

In each annual Big Bay Boom monitoring report, analytical data were evaluated as follows: (1) results were compared with CTR ambient water quality criteria, (2) a comparison was made between the pre- and post-event concentration levels, and (3) the chemistry results were evaluated based on the distance from the fireworks barge. Table 4.6-5 shows the chemicals that were analyzed for San Diego Bay, and Table 4.6-6 presents an overview of the water quality monitoring program for the Big Bay Boom.

⁵ Under the General Permit, all Category 1 dischargers are required to prepare a Water and Sediment Monitoring Plan and conduct comprehensive water and sediment quality monitoring. For fireworks display events, SeaWorld is currently the only Category 1 discharger in the San Diego region. SeaWorld is required to conduct a higher level of monitoring and reporting than Category 2 dischargers because of the high number of events they conduct each year. Category 2 entities are all other dischargers of fireworks of any net explosive weight from a single event or multiple events to any surface water of the United States within the San Diego region.

Table 4.6-5. Water Chemistry Analytical Testing for San Diego Bay

Conventional, Nutrient	Semivolatile Organic Compound	Metals (Total and Dissolved)
Total phosphorous, total perchlorate	Bis-phthalate	Arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, potassium, selenium, silver, thallium, tin, titanium, vanadium, zinc

Source: Appendix G

Table 4.6-6. Big Bay Boom Monitoring Program Elements (2013–2016)

Monitoring Year	Monitoring Program Overview
2013	<ul style="list-style-type: none"> • North Embarcadero site only • Samples collected 300 feet, 600 feet, and 900 feet downwind of fireworks launch barge in the upper 1 meter of water • Samples collected as soon as possible after receiving the “all clear” from the Fire Marshal (referred to as time 0), and at 30 minutes and 60 minutes
2014	<ul style="list-style-type: none"> • Harbor Island site only • Samples collected 0 feet, 25 feet, and 50 feet, and downwind of fireworks launch barge in the upper 1 meter of water • Samples collected as soon as possible after receiving the “all clear” from the Fire Marshal (referred to as time 0)
2015	<ul style="list-style-type: none"> • Harbor Island site only • Samples collected 0 feet, 25 feet, and 50 feet, downwind of the fireworks launch barge in the upper 1 meter of water • Samples collected as soon as possible after receiving the “all clear” from the Fire Marshal (referred to as time 0)
2016	<ul style="list-style-type: none"> • North Embarcadero and South Embarcadero sites (two barges) • Samples collected 0 feet, 25 feet, and 50 feet downwind at both fireworks barges in the upper 1 meter of water • Two 0-foot samples collected adjacent to both barges immediately following the fireworks display event • 25-foot and 50-foot samples collected at both barge sites as soon as possible after receiving the “all clear” from the Fire Marshal

Source: Appendix G

The following provides an overview of the voluntary Big Bay Boom water quality monitoring efforts from 2013 through 2016. Figures 4.6-2 through 4.6-5 compare pre-fireworks display event versus post-fireworks display event chemistry results for the 2013–2016 monitoring events, respectively. These figures present the analytical results for six chemical analytes (copper, zinc, mercury, molybdenum, phosphorous, and perchlorate) of the 21 analytes tested (results for all chemical tests are contained in Appendix G). These six analytes were selected because of their importance as contaminants of concern in San Diego Bay (i.e., CWA Section 303(d) listings or TMDLs), a heightened level of concern identified in the General Permit (i.e., perchlorate analyses), or, in the case of molybdenum, the lack of other local sources that may help confirm an increased concentration level

due to fireworks residues. In addition, the other chemical analytes that were tested but not analyzed in this section were not detected at levels that warrant further discussion/analysis.

2013 Monitoring Program

The 2013 water quality evaluation found limited relationships between the pre- and post-show results based on distance from the fireworks barge as well as time following the fireworks show in that there were no apparent trends or cause and effect relationships across analytes for (1) different time periods or (2) distances from the deployment barge (Figure 4.6-2). The average concentration levels for copper, zinc, and mercury observed at all three distances from the fireworks barge were below ambient water quality criteria levels of concerns. The metals measured with no available criteria levels (e.g., molybdenum) were found to be at similar concentrations in the water column in pre-show and post-show samples. This was also found to be the case for phosphorus. One chemical of concern, perchlorate, was detected at low levels at all three sampling locations; however, it was also detected in the pre-show sample in 2013.

2014 Monitoring Program

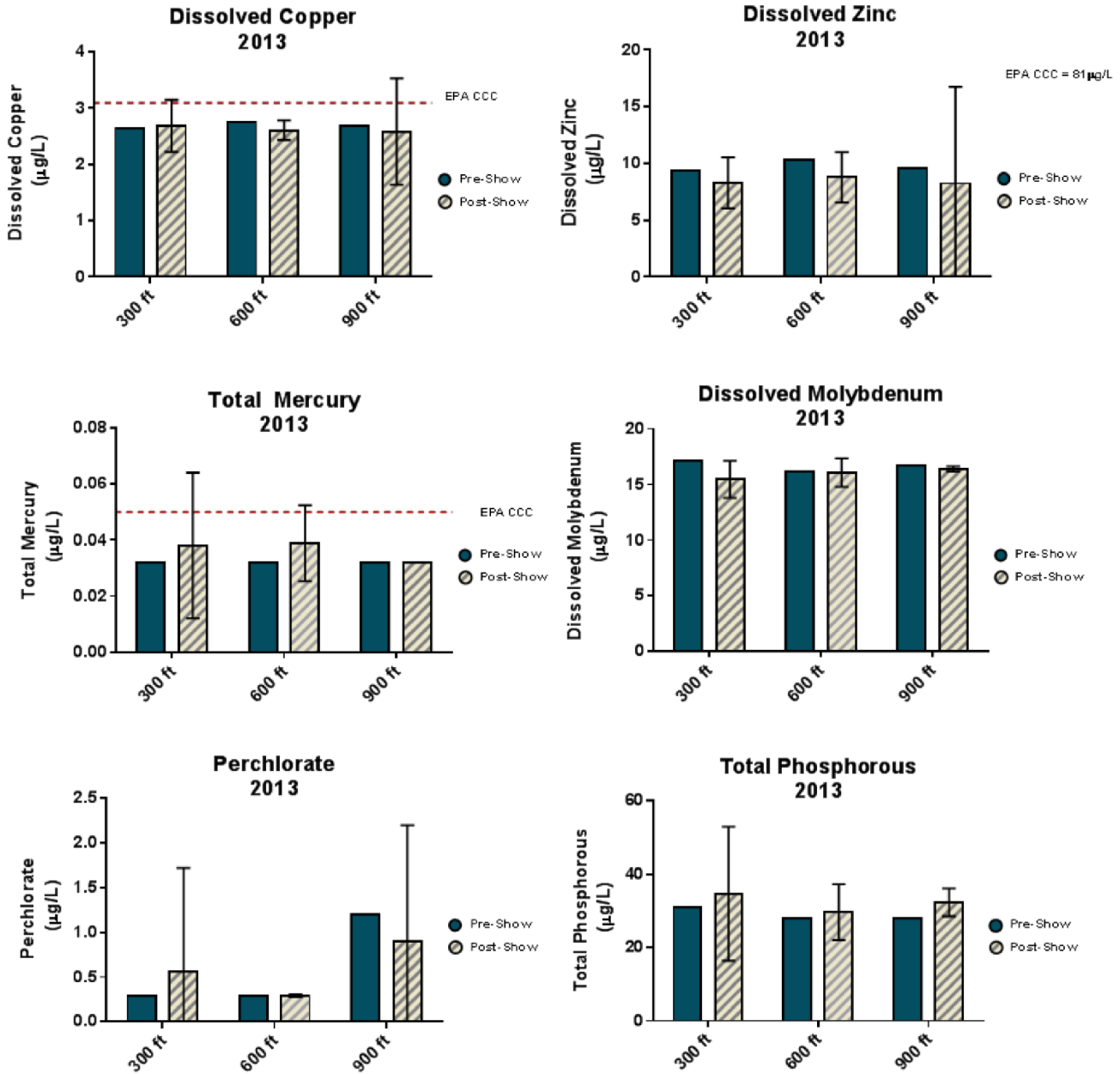
The 2014 Big Bay Boom monitoring showed no clear relationships between the pre- and post-show results based on distance from the fireworks barge (Figure 4.6-3), except for perchlorate. The concentration levels for copper, zinc, and mercury observed at all three distances from the fireworks barge were below ambient water quality criteria levels of concerns. The metals measured with no available criteria levels (e.g., molybdenum) were found to be at similar concentrations in the water column in pre-show and post-show samples. This was also found to be the case for phosphorus during the 2014 monitoring event.

Perchlorate showed an increase in both the 25-foot and 50-foot collection sites compared with the pre-fireworks display event baseline. While perchlorate was detected in some post-fireworks display event samples, the concentrations observed were very low (slightly above the method detection limit of 0.29 micrograms per liter [$\mu\text{g/L}$]). Although there is no CTR criterion for perchlorate, the highest concentration of perchlorate detected (1.4 $\mu\text{g/L}$) is orders of magnitude lower than the 10 to 100 milligrams per liter (mg/L) range found to cause sublethal effects on freshwater fish in laboratory tests.

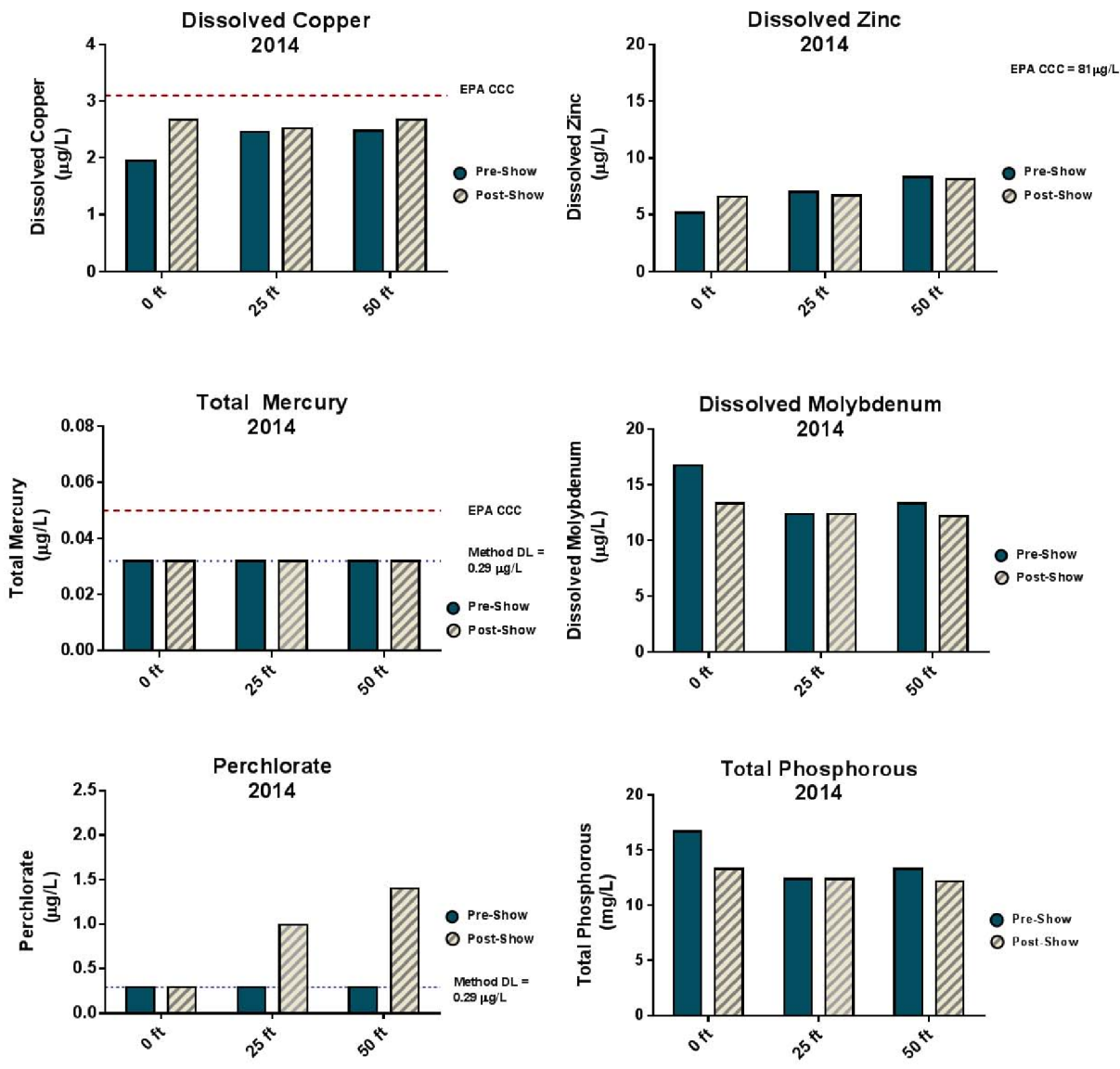
2015 Monitoring Program

Limited relationships between the pre- and post-show results based on distance from the fireworks barge as well as time following the fireworks show were observed during the 2015 monitoring event (Figure 4.6-4). Except for copper and mercury, all constituent concentrations were below CTR criteria levels or were similar to pre-fireworks display event baseline levels. Additionally, concentrations of both trace metals were in fact slightly greater in pre-show versus post-show samples. Although copper and mercury concentrations exceeded chronic CTR criteria, there was no pre- or post-fireworks display event trend indicating that the fireworks display event was responsible for the observed exceedances. Furthermore, concentrations were well below acute CTR criteria maximum concentration levels. The metals measured with no available criteria levels (e.g., molybdenum) were found to be at similar concentrations in the water column in pre-show and post-show samples. This was also found to be the case for phosphorus.

Unlike 2014, perchlorate levels were all non-detect in 2015 compared to the established method detection limit. It should be noted, however, that the method detection limit in 2014 (0.29 $\mu\text{g/L}$) was



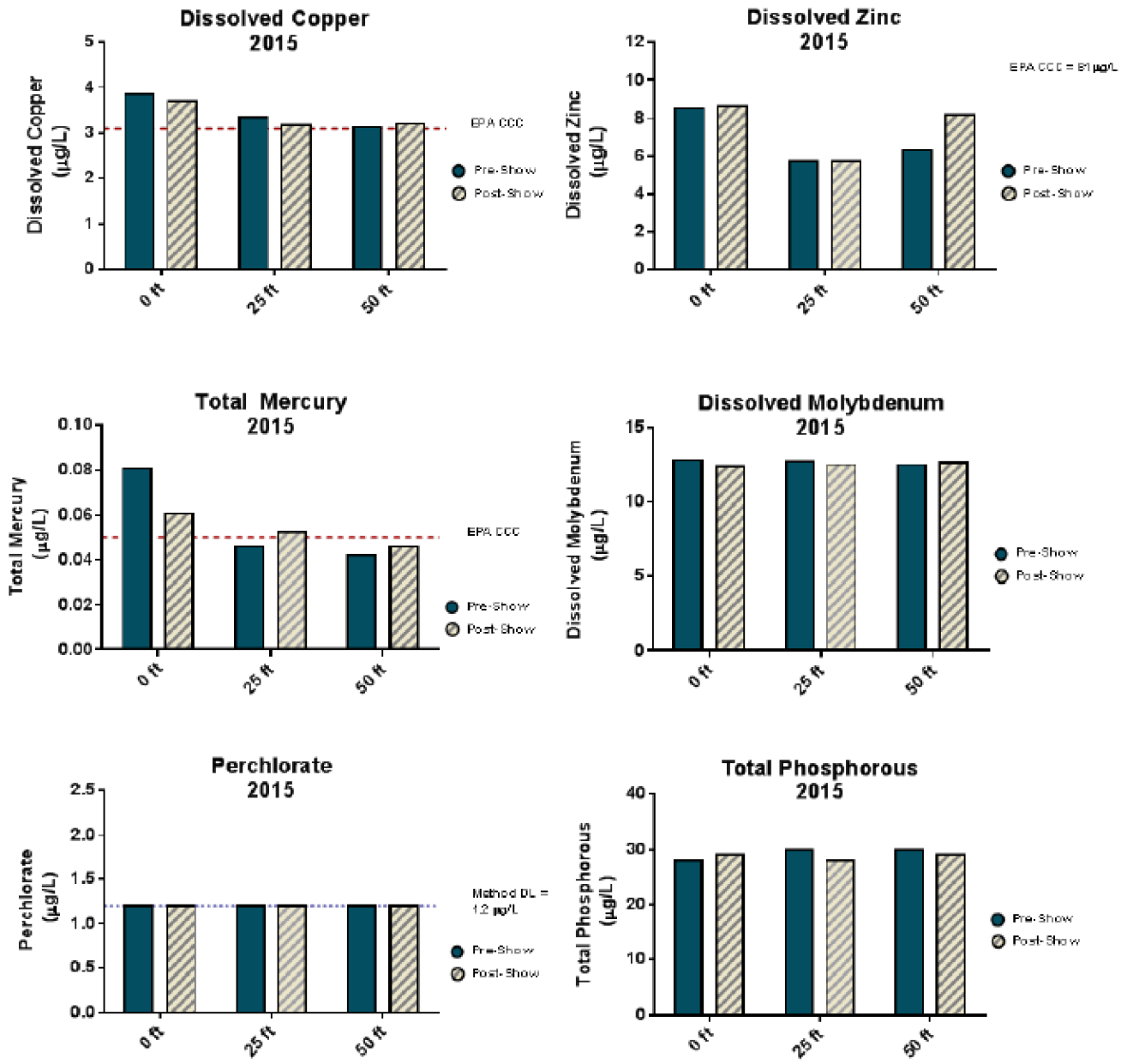
Mean values ±95 percent confidence intervals for post-show analyses (n=3; time 0, 30 min. post-show, and 60 min. post-show). Bars shown for the pre-show samples represent a single value at each sampling location.



Bars represent results for a single value at each sampling location.



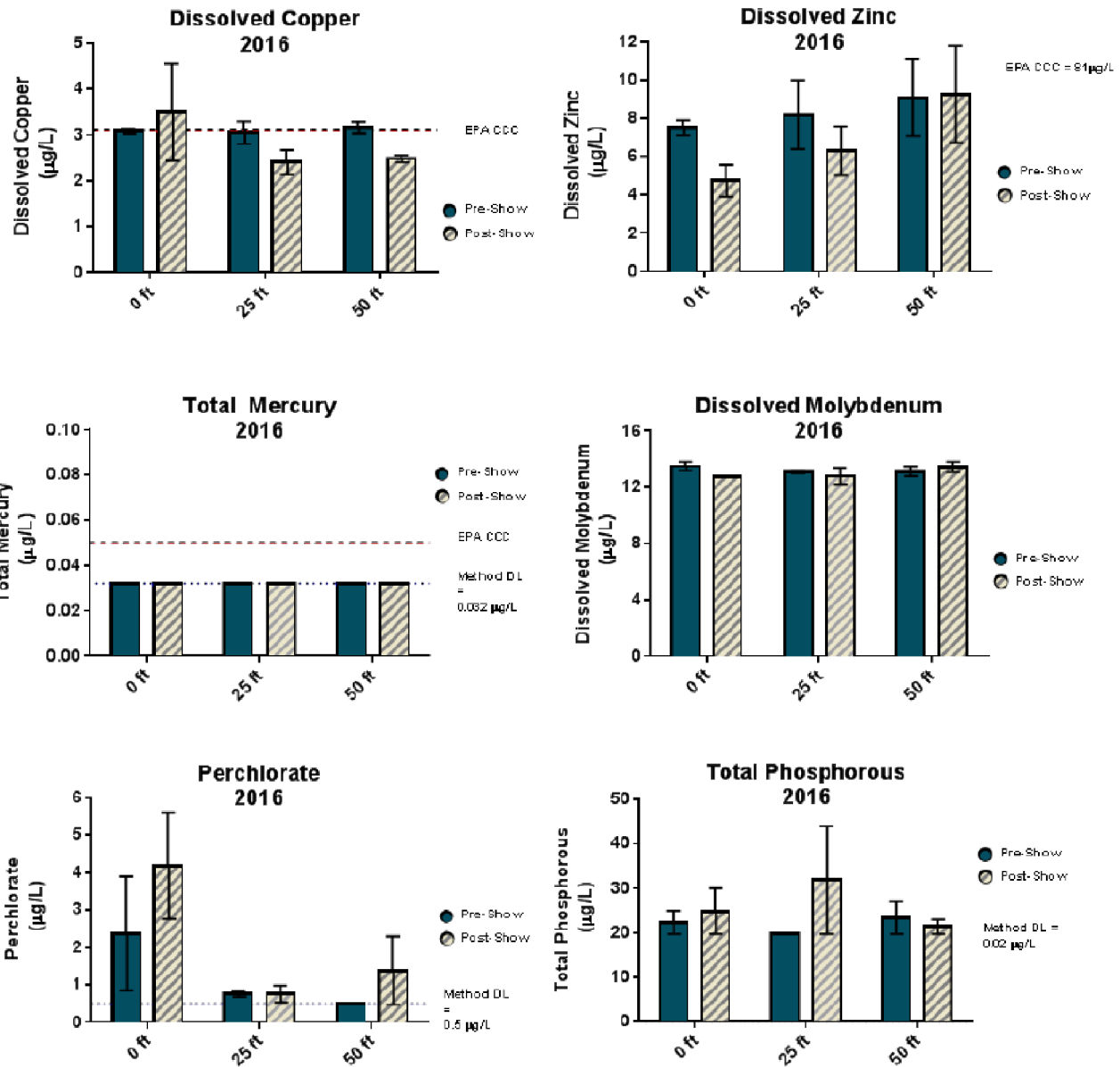
Figure 4.6-3
 Select Water Quality Measurements for the Big Bay Boom in 2014 Pre- and Post-Show
 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR



Bars represent results for a single value at each sampling location.



Figure 4.6-4
Select Water Quality Measurements for the Big Bay Boom in 2015 Pre- and Post-Show
San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR



Bars represent mean results for duplicate values at each sampling location; one sample from each of the two monitored barges. Error bars represent the range of values observed at the two barges.



Figure 4.6-5
 Select Water Quality Measurements for the Big Bay Boom in 2016 Pre- and Post-Show
 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR

lower than the 2015 detection limit (1.2 µg/L).⁶ The higher detection limit in 2015 may be the reason that the results were non-detect.

2016 Monitoring Program

Limited relationships between the pre- and post-show results—based on distance from the fireworks barge as well as time following the fireworks show—in metal levels were observed in the Big Bay Boom 2016 monitoring data (Figure 4.6-5). Dissolved copper was the only metal detected at a concentration that exceeded a CTR water quality criterion; however, it did so in both the pre-fireworks display event and post-fireworks display event samples. The metals measured with no available criteria levels (e.g., molybdenum) were found to be at similar concentrations in the water column in pre-show and post-show samples. Phosphorus levels were similar in pre-show and post-show samples collected at 0 feet and 50 feet from the fireworks barge. The post-show phosphorus level in the 25-foot sample was slightly higher compared to the pre-show sample, but only slightly above the detection limit.

Low levels of perchlorate were detected in most pre-fireworks display event and post-fireworks display event samples collected in 2016. The post-fireworks display event samples collected adjacent to the fireworks barges appear to show increased perchlorate levels compared with pre-fireworks display event levels. The maximum post-fireworks display perchlorate concentration observed was 6.4 µg/L, which is well below the levels that have been shown by researchers to result in toxic effects on aquatic organisms in laboratory toxicity tests (10 to 100 mg/L).

Big Bay Boom Monitoring Summary

Overall, chemical levels observed during the Big Bay Boom monitoring events have shown limited changes in water quality with regard to collection time or distance from the fireworks barge. The one exception is perchlorate, which has shown a slight pattern of increased concentration in some post-fireworks display event samples; however, the results have been variable. The post-show perchlorate levels since 2013 ranged from non-detect to a maximum concentration of approximately 6.4 µg/L in 2016 (at time 0 immediately adjacent to one of the barges). The concentrations were generally in the 1–2 µg/L range over this monitoring period. There is no water quality CTR criterion for perchlorate in surface waters, and perchlorate results detected in the Big Bay Boom monitoring programs are considerably lower compared with the levels that have produced effects in toxicity tests (10 to 100 mg/L).

With regard to the other chemicals analyzed (metals and organics), there were no discernible patterns observed with relation to the sampling distance from the fireworks barge or the collection time following the existing Big Bay Boom fireworks display events.

SeaWorld Monitoring Program

SeaWorld is classified as a Category 1 discharger under the General Permit. As such, SeaWorld was required to prepare a Water and Sediment Monitoring Plan and conduct comprehensive water and sediment quality monitoring of its launch site adjacent to Fiesta Island on Mission Bay. The nightly firework display events at SeaWorld are generally performed during the summer months, between

⁶ The analytical laboratory reported the following with regard to the 2015 perchlorate detection limits, “Due to matrix interference, a 40x dilution was reported for Perchlorate for seven samples. However, results were non-detect for all samples at lower dilutions but QA/QC criteria were not met due to the internal standard failing.” The laboratory was able to achieve lower detection limits during the other three sampling events.

April and September. Since 1985, a total of approximately 3,800 fireworks events have been performed. Under the current SeaWorld Master Plan update, approved by the California Coastal Commission in 2001, SeaWorld may present up to 150 fireworks events per year, with an anticipated average between 110 and 120 events per year.

Because of SeaWorld's history of fireworks display events dating back for decades, the large number of fireworks display events conducted on a yearly basis, and the fact that the fireworks are barge-launched in the same general location in a shallow, enclosed basin with reduced circulation, SeaWorld fireworks display events likely represent the maximum firework pollutant loading conditions and cumulative effects (i.e., the "worst-case scenario") in the San Diego region, including the Pacific Ocean, with respect to potential impacts of fireworks on water and sediment quality.

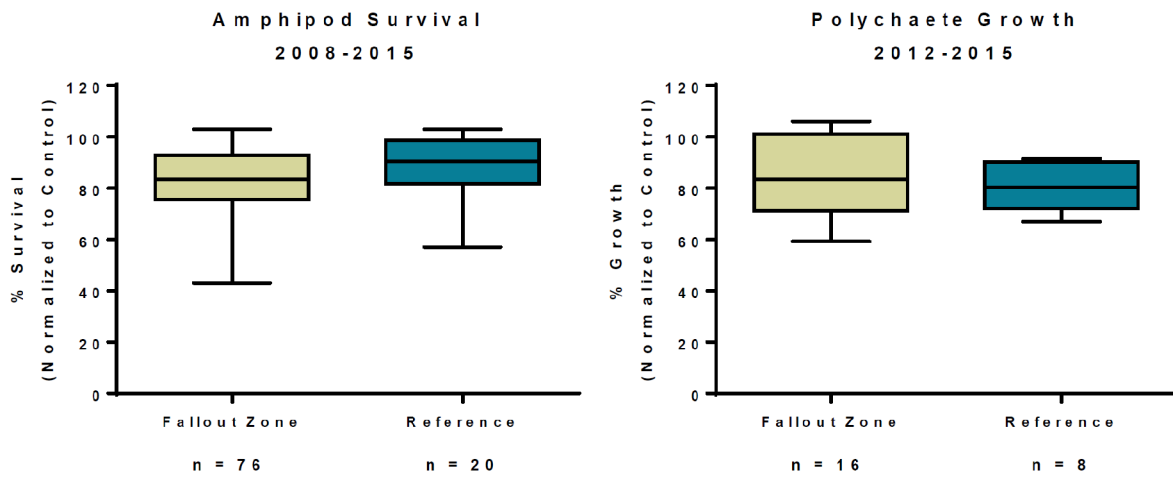
SeaWorld has performed extensive water and sediment quality monitoring at its launch site in Mission Bay since 2011. It began more intensive monitoring of the fireworks fallout zone in 2008. The enhanced monitoring program includes sediment chemistry and toxicity analyses, and benthic community conditions (Appendix G). Recent sediment testing has been conducted using the multiple lines of evidence approach outlined in the SWRCB California Sediment Quality Objectives program.

A general summary of SeaWorld's monitoring results is presented below.

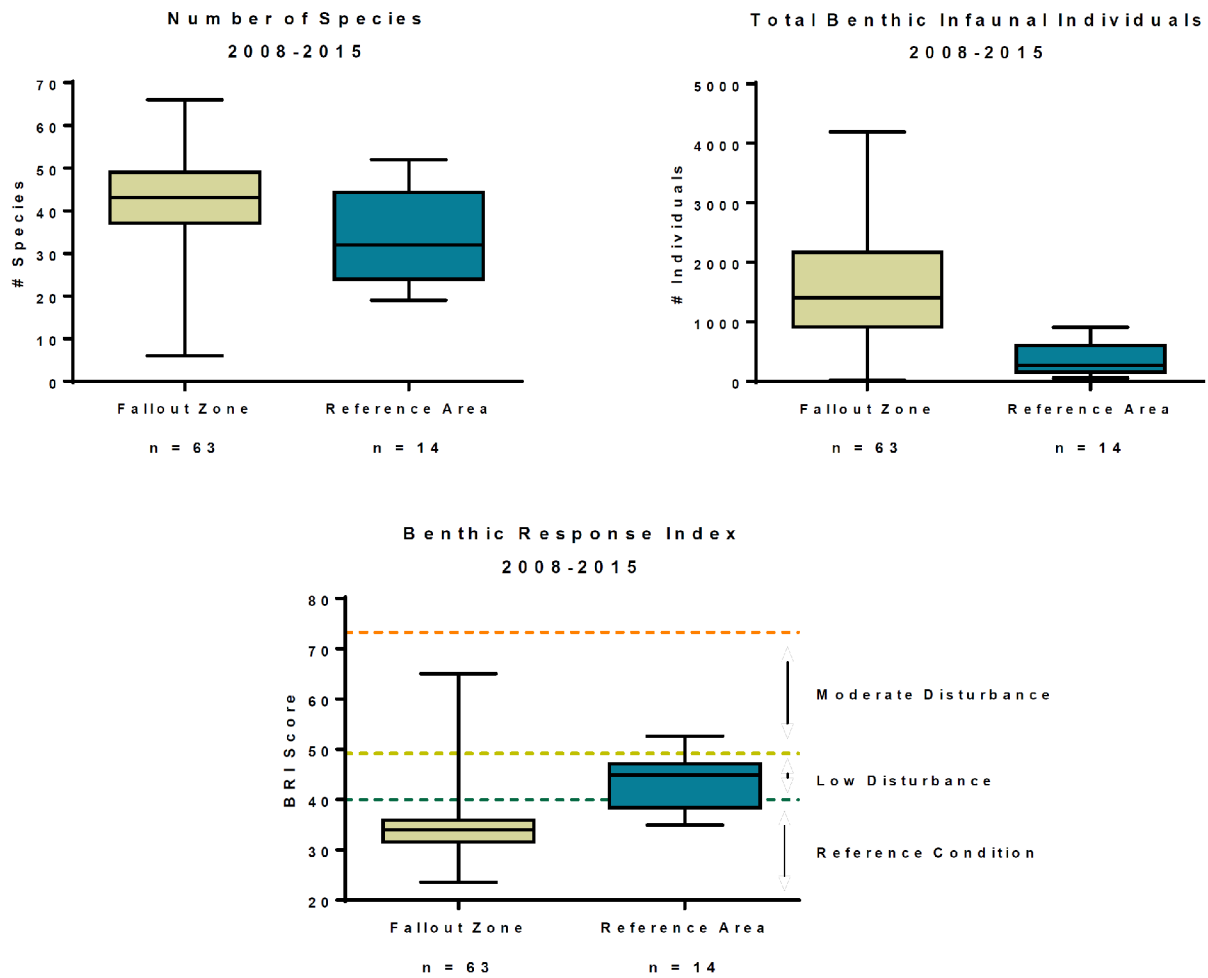
- Except for perchlorate and bis-phthalate, results of water chemistry sampling of regular SeaWorld events to date have shown little evidence of pollutants within the receiving water column at levels above applicable water quality criteria or detected reference site levels.
- Based on water quality data obtained to date, it is unlikely that single fireworks display events of a size smaller than SeaWorld's Fourth of July and Labor Day fireworks display events would cause exceedances of applicable water quality criteria in the water column of receiving waters.
- SeaWorld's sediment monitoring in Mission Bay found increased metal levels within the fireworks zone when compared with a reference site (metals included barium, chromium, cobalt, copper, molybdenum, potassium, selenium, silver, thallium, titanium, and vanadium). Sediment grain size and concentration analysis found correlations for barium, cobalt, chromium, copper, titanium, and vanadium. The data from sediment testing indicate an increase over time of these specific chemicals within the sediment in the fireworks fallout area when compared to the reference site sediments.

In addition, beginning in 2008, SeaWorld has been conducting a more comprehensive assessment of the aquatic environment near its launch site by Fiesta Island in Mission Bay to identify any potential effects attributable to fireworks display events. The assessment has included amphipod and polychaete toxicity tests and benthic infaunal community analyses.

The results of these analyses are summarized in Figures 4.6-6 (toxicity) and 4.6-7 (benthic infaunal analyses). Results for the fireworks fallout zone are compared with two different reference locations in Mission Bay. Both the toxicity and benthic community results clearly indicate that the fireworks fallout zone is not degraded in comparison with the reference sites. The number of individuals collected and number of species were actually greater in the fallout zone relative to those found at the reference sites. Furthermore, samples collected in the fireworks discharge area were considered to have benthic community conditions representative of a healthy reference condition according to the benthic response index, which is a commonly used metric specific to the Southern California coastal shelf and embayments (Smith et al. 2003).



Plots showing the median and 25th to 75th percentile distribution (colored boxes), and whiskers depicting min and max values (n = the total number of measurements for each plot)



Plots showing the median and 25th to 75th percentile distribution (colored boxes), and whiskers depicting min and max values (n = the total number of measurements for each plot)

Additionally, SDRWQCB concluded that sediment chemistry tests conducted in the fallout zone indicated increased metal levels within the fireworks zone when compared with a reference site. However, based on SeaWorld's monitoring program results, this increase has not resulted in toxicity or benthic community degradation within the fallout zone.

Additional Studies

Amec Foster Wheeler conducted a review of fireworks-related water quality studies throughout the United States as well as pertinent studies on perchlorate (a firework component). The information is intended to supplement the findings of local water quality monitoring programs. The studies and report reviews are summarized in Table 5-4 of Appendix G. It is clear from these studies that perchlorate is the primary fireworks chemical of concern, as it has received the most attention from a monitoring and research standpoint due to its potential environmental and human health impacts. Perchlorate originates from the dissolution of salts such as ammonium, sodium, potassium, and magnesium in water. In these forms, perchlorate is used as an oxidizer in propellants for fireworks. Perchlorates are stable at normal temperatures, but when they are heated to a high temperature, they begin to react. Once they begin to react, they produce a large amount of heat. This heat causes more of the perchlorates to begin reacting, creating even more heat. This chain reaction process repeats until an explosion occurs. Because perchlorates react in this way, they are used in rocket motors, fireworks, flares, gunpowder, and explosives (Appendix G).

Although perchlorate is recognized as an environmental contaminant and chemical of concern in fireworks, the consequences of elevated perchlorate levels in an aquatic system are not fully understood. Perchlorate also has health implications for humans, as it is absorbed by the thyroid gland in place of iodine, which can interfere with the production of thyroid hormone (ATSDR 2008). Thyroid hormone is essential for metabolism and mental development, so perchlorate exposure is thought to be particularly harmful to fetuses. The potential impact of perchlorate on humans and other living organisms is directly linked to its mobility and attenuation in the environment.

Perchlorates are soluble in water and generally have high mobility in soils (ATSDR 2008). This characteristic results in their ability to move from soil surfaces into groundwater (a process called leaching) when they enter the environment. As shown in a study conducted at Mount Rushmore, perchlorates from fireworks can concentrate in groundwater (Hoogestraat and Rowe 2016). In 2007, the Massachusetts Department of Environmental Protection released a multi-year study that linked areas that had hosted annual fireworks display events to perchlorate-contaminated public wells (MADEP 2007).⁷The results of this study led Massachusetts to develop the nation's only drinking water standard for perchlorate, set at 2 µg/L (0.002 mg/L).

Perchlorates are ionic substances and, therefore, do not volatilize from water or soil surfaces. Perchlorates are known to remain unreactive in the environment for long periods of time; however, evidence suggests that microorganisms found in soil and water may eventually reduce perchlorate to other substances. If perchlorates are released to air, they eventually settle out of the air, primarily in rainfall. Perchlorates do not appear to accumulate in animals (ATSDR 2008).

Review of the toxicity studies conducted on perchlorate indicate that the range of concentrations tested in laboratory studies that resulted in effects were in the 10 to 100 mg/L range. The highest

⁷ While a perchlorate standard has been developed for drinking water, there are no standards for surface waters. The drinking water standard of 2 µg/L is orders of magnitude below the levels where environmental effects have been observed.

ambient levels of perchlorate measured in the Big Bay Boom and SeaWorld monitoring programs have been less than 10 µg/L (i.e., less than 0.01 mg/L), which is several orders of magnitude less than those in the laboratory studies. Note that the majority of the laboratory studies have been conducted on freshwater fish.

In addition, most of the studies conducted to assess the potential impacts of fireworks on water quality have been conducted on lakes. Lake environments are considerably different from coastal areas such as San Diego Bay or the Pacific Ocean, where tidal and current mixing is a dominant characteristic.

Proposed New Fireworks Display Events

The proposed project includes the addition of up to four new fireworks display events that would occur along the National City and Chula Vista Bayfronts. Water quality impacts associated with these proposed new displays were estimated based on the results of the water quality monitoring conducted for the Big Bay Boom fireworks display event and other fireworks display events in the San Diego region such as SeaWorld. As discussed above, water quality monitoring of the Big Bay Boom fireworks display events since 2013 has shown no substantial degradation of water quality when comparing ambient chemical levels (pre-show) with post-show levels.

Over the 4-year water quality monitoring for Big Bay Boom, the only chemical of concern that has shown a slight increase over ambient levels is perchlorate. Overall, perchlorate is a chemical of concern because of its potential to cause environmental and human health impacts. Studies have shown that perchlorate related to fireworks display events over land can build up in groundwater. Laboratory studies have shown perchlorate to cause sublethal effects on freshwater fish in the 10 to 100 mg/L range. The highest ambient levels of perchlorate measured in the Big Bay Boom monitoring program occurred in 2016, when a maximum concentration of approximately 6.4 µg/L was detected. The concentrations measured in the monitoring programs for the previous years (2013–2015) have been substantially less than 10 µg/L (i.e., less than 0.01 mg/L) and were generally in the 1–2 µg/L range, which is several orders of magnitude below the 10 to 100 mg/L range found to cause sublethal effects on freshwater fish in laboratory tests. In addition, while a perchlorate standard has been developed for drinking water, there are no standards for surface waters. The drinking water standard of 2 µg/L is orders of magnitude below the levels where environmental effects have been observed. While the levels of perchlorate measured in these water quality monitoring results are above Massachusetts' drinking water standard for perchlorate of 2 µg/L (0.002 mg/L), as identified above, municipal or domestic water supply is not a beneficial use of San Diego Bay. Therefore, because San Diego Bay is not a source of potable water, the drinking water standards for perchlorate set by the State of Massachusetts are not relevant. Additionally, perchlorate is of minor concern with regard to the proposed new fireworks display events because: (1) groundwater is not a beneficial use in the fireworks display areas, (2) concentration levels measured in ambient surface waters following the Big Bay Boom and SeaWorld fireworks display events are orders of magnitude below the effective levels observed in laboratory tests, and (3) the enclosed environments in which perchlorate has been shown to accumulate are unlike conditions in San Diego Bay environments where tidal and current mixing is a dominant characteristic (Appendix G).

The proposed new fireworks display events would be substantially smaller than the Big Bay Boom (with approximately 456 pounds and 114 pounds of fireworks being detonated per Fourth of July and other non-Fourth of July display, respectively, compared to the approximately 5,342 pounds of

fireworks for the existing Big Bay Boom) and, therefore, would result in substantially less amounts of fireworks-generated chemical residues falling into the Bay. No sediment monitoring has been conducted as part of the existing Big Bay Boom monitoring program, but SeaWorld has conducted considerable sediment testing in Mission Bay, and its fallout zone is shallower and has more restrictive current and tidal flow compared to the anticipated launch sites for the proposed new fireworks display events. As SDRWQCB noted in the General Permit, SeaWorld events likely represent the maximum firework pollutant loading conditions and cumulative effects in the San Diego region, including the Pacific Ocean, with respect to potential impacts of fireworks on water and sediment quality. While SeaWorld's testing has found an increase of some chemicals within the sediments in the fireworks fallout zone, the observed increase has not resulted in any toxicity or benthic community impacts. As such, it is anticipated that the proposed new fireworks display events would not result in any sediment toxicity or benthic community impacts, as these displays are smaller, would occur much less frequently, and be held in an area subject to greater current and tidal flow than the SeaWorld fireworks displays. Therefore, the proposed new fireworks display events would not violate any water quality standards or waste discharge requirements, and potential impacts would be less than significant.

Furthermore, as discussed in Chapter 3, *Project Description*, the proposed ordinance includes a condition of approval that would require compliance with the requirements of SDRWQCB's General Permit and includes specific requirements to submit necessary reports to the District for verification. In addition, a condition of the ordinance requires all fireworks display events to use alternative fireworks produced with pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke, and reduce pollutant waste loading to surface waters.

Potential Direct Impacts of Fireworks Debris on Surface Waters

Big Bay Boom Debris Management

In accordance with the General Permit, the existing Big Bay Boom event has an established debris management program that is implemented following each fireworks display event. The Big Bay Boom debris management and recovery program has three main components.

1. Recovery of debris on each fireworks barge by the fireworks operator following the event to prevent debris from entering the water during transit back to the barge staging area. Additional debris removal and proper disposal is conducted once the barges reach the loading/setup yard facility. Recovered materials are properly disposed of.
2. Collection and proper disposal of floating debris by the fireworks organizer and fireworks operator as soon as permitted by the Fire Marshal. The organizer and operator conduct a sweep of the fireworks detonation zone surrounding each of the four barges to gather and properly dispose of floating debris from spent fireworks.
3. The fireworks detonation zone and shoreline areas adjacent to the four barge locations are inspected again by the fireworks organizer for debris no later than 24 hours following the fireworks display event. Any cardboard, paper, or other debris is removed.

As previously stated, the General Permit requires that information on debris recovery be submitted with the Public Display of Fireworks Post Event Report Form. The form requires the fireworks organizer to report regarding inspection of the entire firing range (including the fireworks

launching area, adjacent shorelines, quays, docks, and the fireworks fallout area), barge(s) (if used), and adjacent surface water(s) and cleanup of particulate matter and debris from ignited and unignited pyrotechnic material within 24 hours following the display.

SeaWorld Debris Management

As required under the General Permit, SeaWorld submitted its FBMPP to SDRWQCB in July 2011. The purpose of its plan is to ensure that: (1) fireworks debris is properly cleaned up and removed after each fireworks display event, (2) unexpended materials are properly handled and disposed of by trained and knowledgeable personnel, and (3) trained fireworks personnel screen fireworks debris prior to disposal to verify that there are no unexpended/unexploded fireworks devices in the debris pile. SeaWorld's FBMPP also describes procedures for fireworks and trash collection, specific cleanup procedures for the launch area and environs (including a map depicting the cleanup areas), and recordkeeping requirements. SeaWorld has implemented its FBMPP activities before, during, and after each event.

SeaWorld's site-specific BMPs include conducting sweeps of (1) the fireworks fallout area where floating debris from spent fireworks is removed from the water using hand-held fishnets and (2) the fireworks barge immediately after each fireworks display event to prevent solid waste and debris from being swept into the water by winds (Brown and Caldwell 2015). Unexploded fireworks, including unexploded components, are collected, placed in a container, and disposed of by the pyrotechnic operator. In addition, crews from a SeaWorld subcontractor collect fireworks debris from the adjacent shoreline every morning and afternoon following each fireworks display event.

According to the General Permit, prior to 2011, SeaWorld typically collected an average of 11 pounds of fireworks-related wet debris each evening following the fireworks display event and 8 pounds the following morning (SDRWQCB 2011c). In 2015, the wet material collected by SeaWorld following each fireworks display event averaged between 2 and 15 pounds. The mass of dry material collected from the adjacent beach varied from 10 to 75 pounds and included both firework debris and other debris items found along the beach.

Summary of Debris Management

The estimated net weight of pyrotechnic materials in an aerial fireworks shell (Class B) is typically about half (i.e., 50 percent) of its total weight (Poulton and Kosanke 1995). Using this estimate, 50 percent of the total weight of a fireworks display consists of pyrotechnic materials while the other 50 percent is composed of a mixture of cardboard, paper, plastic, and inert substances that comprise the shell and lifting charge. In addition, an unknown portion of the solid material that comprises the lifting charge is combusted or otherwise destroyed during launch operations. This combusted material cannot be recovered via debris management after the fireworks have been detonated.

According to the General Permit, the fireworks organizer and fireworks operator are required to collect and weigh the post-event debris remaining on the launch platform (i.e., barge or pier) as well as the surrounding waters. These weights are required to be submitted to SDRWQCB as part of the Post Event Reporting Form. Using conservative assumptions, the weight of the debris recovered from the launch platform combined with the dry weight of the debris collected in the surrounding waters should equal approximately one-half of the total display weight. If the total recovered debris weight (including debris recovered from the launch platform and surrounding waters) is less than the expected recoverable weight, the unaccounted amount is the portion of the fireworks-related

debris assumed lost to the environment. Some of the factors that may affect the ability to successfully recover all post-show debris could include the size of the debris pieces (i.e., too small to recover), weather conditions such as wind or rain, the amount of paper incinerated, sunken material, or material that was blown onto land. As noted above, a portion of the solid material that comprises the lifting charge is combusted or otherwise destroyed during launch operations. This combusted material cannot be recovered via debris management after the fireworks have been detonated.

In addition, the composition of the shells used for the display event should also be taken into consideration. As previously discussed, an aerial shell typically consists of a cylinder or spherical cartridge, usually constructed of paper, plastic, or cardboard, and may include some plastic or paper internal components used to compartmentalize chemicals within the shell. Some components of the shell (paper, cardboard, and cotton string) are biodegradable and would not persist for long periods in the aquatic environment. However, other materials, such as plastic, are likely to persist in the marine environment for lengthy periods if they are not recovered during the post-event cleanup operations conducted by the fireworks organizer.

Fireworks debris is a potential source of pollutants that could adversely affect water quality if it is not properly recovered following a fireworks display event. Consequently, there is a potential for the proposed fireworks display events to pollute surface waters if fireworks debris is not properly recovered, which would be considered a significant impact (**Impact-WQ-1**).

For this reason, under the General Permit, SDRWQCB requires dischargers (i.e., fireworks organizers) to prepare and implement FBMPs for all fireworks display events covered by the General Permit that address post-show debris recovery from launch platforms and surrounding waters and proper disposal of all recovered materials.

The General Permit also requires the submittal of a Public Display of Fireworks Post Event Report to SDRWQCB. The following debris-related information must be submitted as part of the report.

- Confirmation that the entire firing range (including the fireworks launching area, adjacent shorelines, quays, docks, and fireworks fallout area), barge(s) (if used), and adjacent surface water(s) were inspected and cleaned of particulate matter and debris from ignited and unignited pyrotechnic material within 24 hours following the display
- An estimate of the amount of debris collected from the firing range (in pounds dry weight)
- An estimate of the amount of floating debris collected from adjacent surface water(s) (in pounds wet weight)

In addition, the implementation of mitigation measure **MM-WQ-1** requires the implementation of the water quality-related conditions of approval of the proposed ordinance. One of these conditions of approval would require the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive FBMP for each proposed new fireworks display event consistent with the requirements of the General Permit. The comprehensive FBMP would include detailed debris BMPs that address the prevention, recovery, disposal, logging, and reporting of debris in a standard and consistent manner, as well as other operational and environmental protection practices in compliance with the General Permit and the proposed District ordinance. The proposed ordinance also includes a condition of approval that requires a reduction in the amount of non-biodegradable fireworks components for each proposed new display.

Potential Indirect Impacts of Increased Human-Generated Trash on Surface Waters

Increased human activity within the public viewing areas such as parks during a fireworks display event may result in an increase in human-generated trash and litter that if not properly disposed of and cleaned up can enter San Diego Bay and degrade the water quality (**Impact-WQ-2**). The District currently maintains parks and other public areas within its jurisdiction following large events such as a fireworks display event. This includes increased/additional trash cleanup and other maintenance services at affected parks within 24 hours following Fourth of July fireworks display events to minimize impacts from increased use of the parks that serve as viewing locations. As with existing fireworks display events, the District would continue to provide these maintenance services following the proposed new Fourth of July fireworks display events. In addition, implementation of mitigation measure **MM-WQ-2** requires the implementation of a water quality-related condition of approval of the proposed ordinance that requires the placement of additional trash receptacles at major public viewing areas to reduce increased human-generated trash during publicly advertised fireworks display events from entering the San Diego Bay.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval that would reduce potential impacts on the water quality of San Diego Bay and the Imperial Beach Oceanfront. The proposed ordinance requires the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke, and reduce pollutant waste; removal of packaging; inclusion of biodegradable inner components; implement BMPs; compliance with SDRWQCB's General Permit requirements and other required permits; and implementation of post-display cleanup practices consistent with the requirements of SDRWQCB's General Permit. These conditions would require additional clean-up of fireworks-generated debris from existing fireworks display events thereby reducing the potential for water quality degradation. As such, there would be no significant adverse impacts on water quality as a result of the effects of the proposed ordinance on existing fireworks display events.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade water quality.

However, fireworks debris from the proposed new fireworks display events and increased human-generated trash during the events are potential sources of pollutants that could adversely affect water quality if it is not properly recovered and properly disposed of following a fireworks display event.

Potentially significant impact(s) include the following.

Impact-WQ-1: Surface Water Pollutant Related to Fireworks Debris. There is a potential for the proposed fireworks display events to pollute surface waters if fireworks debris is not properly recovered, which would be considered a significant impact.

Impact-WQ-2: Surface Water Pollutant Related to Increased Human-Generated Trash and Litter. There is a potential for publicly advertised fireworks display events to pollute surface waters if increased human-generated trash and litter within the major public viewing areas is not properly disposed of and cleaned up, which would be considered a significant impact.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not result in violation of any water quality standards or waste discharge requirements and would not otherwise substantially degrade water quality. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

MM-WQ-1: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Fireworks Debris. The fireworks organizer and operator are required to comply with the following water quality-related conditions of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(d) Fireworks Chemical Composition and Packaging.

1. Chemical Composition.

- B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available.

2. Packaging.

- A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels from all fireworks to be used in the event.
- B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.

(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:

1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.
2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper

to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the fireworks launch area to contain debris.

3. Wires from the electric match placed in the fireworks fuse shall be wrapped around nails that are installed on the racks to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event.
4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event.
5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway.
6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning.
7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent Fireworks using hand held fishnets, pool skimmers, or other similar equipment.
8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.
9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.
10. Within five (5) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through

(9) above. If the weight of the fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.

- (i) Compliance with San Diego Water Board General Permit.
1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.
 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article.
 3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.
- (j) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.
- (k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant's failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.

MM-WQ-2: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter. The fireworks organizer and operator are required to comply with the following water quality-related condition of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

- (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:
11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks operator shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not violate any water quality standards or waste discharge requirements. During implementation of the proposed new fireworks display events, fireworks debris is a potential source of pollutants that could adversely affect water quality if it is not properly recovered following a fireworks display event. Implementation of mitigation measure **MM-WQ-1**, which requires compliance with the water quality-related conditions of the proposed ordinance, would ensure that fireworks-generated debris is properly cleaned up and disposed of, thereby reducing the amount of unrecovered fireworks debris that could create or contribute substantial additional sources of polluted runoff and substantially degrade water quality. However, uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris related to fireworks on surface waters. Therefore, impacts would be significant and unavoidable.

In addition, during the fireworks display event, there is a potential for an increase of human-generated trash and litter at major viewing areas that if not properly disposed of or cleaned up could enter San Diego Bay and degrade water quality. Implementation of mitigation measure **MM-WQ-2**, which requires compliance with the water quality-related conditions of the proposed ordinance, would require additional trash receptacles and clean up at the major viewing areas during publicly advertised fireworks display events to ensure that trash is properly disposed of and cleaned up, thereby reducing the amount of human-generated trash and litter entering San Diego Bay that could degrade the water quality. Furthermore, the District currently maintains parks and other public areas within its jurisdiction following large events such as a fireworks display event. This includes increased/additional trash cleanup and other maintenance services at affected parks within 24 hours following Fourth of July fireworks display events to minimize impacts from increased use of the parks that serve as viewing locations. As with existing fireworks display events, the District would continue to provide these maintenance services following the proposed new Fourth of July fireworks display events. Therefore, impacts would be reduced to a level less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 5: Implementation of the proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Impact Discussion

Proposed New Fireworks Display Events

The proposed project involves four new fireworks display events in San Diego Bay and does not include the construction of any impervious surfaces that would generate stormwater runoff that would flow into existing or planned stormwater drainage systems. Additionally, because the fireworks would be launched from barges within San Diego Bay, the proposed project would not generate any substantial landside sources of polluted runoff that could potentially enter the stormwater drainage system. Therefore, fireworks debris generated by the proposed new fireworks display events would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. No impacts would occur.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance does not include any conditions pertaining to polluted runoff from fireworks because the fireworks are launched from barges and/or piers within San Diego Bay and do not generate any substantial landside sources of polluted runoff that enter the stormwater system; therefore, there would be no change to the existing condition. As such, the effect of the proposed ordinance on existing fireworks display events would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. No impacts would occur.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. No significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation

Proposed New Fireworks Display Events

No impacts would occur.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

4.7.1 Overview

Land use and planning issues refer to the proposed project's compatibility with surrounding land uses and its consistency with land use plans and policies that have regulatory jurisdiction over the project site. This section describes the existing land uses that could be adversely affected by the proposed project; outlines the applicable laws and regulations related to land use and planning; and analyzes the proposed project's consistency with applicable plans and regulations, such as the California Coastal Act (CCA) and the Port Master Plan (PMP).

Impacts related to land use were considered significant if the proposed project would (1) conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect or (2) conflict with any applicable habitat conservation plan or natural community conservation plan. The other land use issue, dividing an established community, was analyzed in Section X of the Initial Study/Environmental Checklist (Appendix A), which is incorporated here by this reference. Potential impacts were determined to be less than significant. The analysis and conclusions regarding this impact are included in Chapter 6, Section 6.4, *Effects Not Found to be Significant*.

Based on the analysis that follows, all impacts related to land use and planning would be less than significant. No mitigation is required.

4.7.2 Existing Conditions

Existing fireworks displays originate from piers, flight decks, and/or barges adjacent to and/or in the waters of north San Diego Bay, including areas adjacent to Shelter Island, Harbor Island, and the Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), Glorietta Bay in Coronado, the NASSCO ship repair facility, and the Imperial Beach Oceanfront. Fireworks display events do not currently occur along the Bayfront in National City or Chula Vista but could occur in the future as part of the proposed project.

San Diego Bay and the Imperial Beach Oceanfront are used by a variety of watercraft, ranging from small recreational boats (sailing, fishing, and watersport boats) to mid-sized vessels, such as personal yachts and harbor cruise ferries/yachts, and large vessels, such as cruise ships, container barges, and U.S. Navy vessels. The land uses adjacent to pier, flight deck, and barge locations are described below. In addition, the existing characteristics of the project sites and the surrounding communities are described in Chapter 2, *Environmental Setting*. For the reader's convenience, this section restates the description of the environmental setting provided in Chapter 2 as it applies to land use and planning.

North San Diego Bay

Piers, flight decks, and/or barges used for existing fireworks display events are located within north San Diego Bay adjacent to Shelter Island, Harbor Island, and the Centre City Embarcadero. Most of the waterfront land uses within these areas comprise tourist destinations and visitor-serving uses, such as hotels, restaurants, and marinas.

Shelter Island

Shelter Island proper is a narrow strip of land, approximately 1 mile in length and less than 0.1 mile in width, that extends off the Point Loma peninsula via Shelter Island Drive. Uses along Shelter Island include primarily hotels, restaurants, and yacht- or marine-related businesses. Fishing piers and boat launches are also located at various points along Shelter Island. Shelter Island Shoreline Park, a public waterfront park with playgrounds, benches, a beach, and a promenade, spans the entire length of Shelter Island. The park is narrow along the middle length but opens up into wider green lawns at the northern and southern ends of the island. Marinas occupy the inlets that are situated between Shelter Island and Point Loma on the north and south sides of Shelter Island Drive. The only Fourth of July fireworks display event that currently occurs near Shelter Island is the Big Bay Boom, which entails the placement of a single temporary barge just offshore of Shelter Island.

The area north of Shelter Island comprises portions of the Point Loma peninsula. The waterfront of Point Loma, approximately 0.4 mile to the west of Shelter Island, is occupied primarily by residential uses. North of these residential uses is property belonging to the U.S. Navy as well as Liberty Station, formerly part of a Naval Training Center that was decommissioned and converted into a mixed-use community that includes multi-family residential uses, retail and office space, restaurants, and publicly accessible parks.

The northern portion of Coronado Island is directly south of Shelter Island. The only land use on the northern portion of Coronado Island is Hasley Field, the airport for Naval Air Station North Island.

Harbor Island

Harbor Island is similar to Shelter Island—a narrow strip of land, approximately 1.5 miles long and 317 feet wide, that extends off the San Diego mainland via Harbor Island Drive. Harbor Island includes primarily hotels, restaurants, and marinas situated in the inlets between Harbor Island and the mainland of San Diego. Other uses include yacht- and sailing-oriented retail shops (charter companies, sport fishing outlets) and publicly accessible shoreline parks. Harbor Island is directly south of San Diego International Airport; the car rental lots occupy the landward side of the island north of the marinas. A large U.S. Coast Guard facility is located east of Harbor Island, also adjacent to the airport. In addition to the residential uses within Point Loma and west of Harbor Island, there is some naval housing to the south, across the Bay. This housing is within Naval Air Station North Island, located on Coronado Island. The only fireworks display event that currently occurs near Harbor Island is the Big Bay Boom Fourth of July event, which entails the placement of a single temporary barge just offshore of Harbor Island.

Centre City Embarcadero

The Centre City Embarcadero spans the length of the Bayfront within the downtown San Diego area, beginning at Laurel Street to the north (just south of San Diego International Airport) and ending roughly at Park Boulevard, which is south of the Convention Center and north of the Tenth Avenue

Marine Terminal. The Centre City Embarcadero is an active waterfront area. Harbor Drive, which runs the length of Centre City Embarcadero, provides vehicular access and on-street parking to uses along the embarcadero. For the purposes of this Draft EIR, the Centre City Embarcadero is broken down into three segments: North Embarcadero, Central Embarcadero, and South Embarcadero, as described below.

North Embarcadero

The North Embarcadero segment runs north to south and spans the downtown Bayfront from Laurel Street to the north to just before North Harbor Drive to the south (where it turns east, just north of Ruocco Park and the Seaport Village). Land uses in the North Embarcadero area along North Harbor Drive include large parcels of land dedicated to the Solar Turbines facility just south of the airport and the San Diego County Administrative Center, which is south of Solar Turbines. The U.S. Navy's Commander, Naval Base San Diego, and Naval Supply Center also occupy large areas on the eastern side of North Harbor Drive in the North Embarcadero area. Other uses include hotels, restaurants, and public parks. Waterside uses in the North Embarcadero include maritime museums, merchant ships, cruise ship terminals, commercial fishing boats, and pleasure craft. The Laurel Street Roadstead anchorage, which is an open-anchorage small-craft marina, is also located just offshore, within the "Crescent Zone" of the North Embarcadero area (the Crescent Zone is the portion of the curvilinear shoreline just south of the U.S. Coast Guard facility).

Little Italy and the central business district of downtown San Diego are east of the North Embarcadero. Uses in these areas are typical of a downtown and include a mix of high-density residential dwellings, high- and medium-rise office buildings, restaurants, and retail establishments. The Grape Street Pier, which is the project site for the existing Our Lady of the Rosary Church annual procession fireworks display event, is also within the Crescent Zone of the North Embarcadero. Also within the North Embarcadero is the U.S.S. Midway Museum, which currently hosts public and private events, some of which include a fireworks display event. Finally, the Big Bay Boom Fourth of July fireworks display event currently occurs within the North Embarcadero area, involving the placement of a single temporary barge just offshore of the North Embarcadero.

Central Embarcadero

The Central Embarcadero area comprises primarily Seaport Village, a waterfront shopping and dining complex south of the intersection of Pacific Highway and West Harbor Drive. The Central Embarcadero also includes Embarcadero Marina Park North, a publicly accessible park that extends from the Seaport Village area. The Big Bay Boom Fourth of July fireworks display event is the only fireworks display event that currently occurs within the Central Embarcadero area. It entails the placement of a single temporary barge just offshore of the Central Embarcadero.

South Embarcadero

The South Embarcadero is bounded to the north by Seaport Village and to the south by the Tenth Avenue Marine Terminal. Uses within the South Embarcadero area include restaurants, the San Diego Convention Center, and public parks, including the location for the Symphony Summer Pops concert series at Embarcadero Marina Park South. Marinas occupy the inlet created by the two L-shaped segments that form Embarcadero Marina Parks North and South. Three high-rise hotels are also located along the waterfront in the South Embarcadero area. The South Embarcadero is adjacent to the Gaslamp Quarter, which includes high- and medium-rise residential buildings, medium-rise office buildings, the Petco Park baseball stadium, and numerous tourist-oriented uses,

such as hostels and hotels, restaurants, and boutique retail shops. Existing fireworks display events that occur within the South Embarcadero include those associated with the San Diego Symphony's Summer Pops concert series, which entail the placement of a single temporary barge just offshore of Embarcadero Marina Park South.

Coronado Bayfront

Both the north and east coasts of the Coronado Bayfront are in proximity to existing fireworks display events. Uses along the north coast of the Coronado Bayfront include Naval Air Station North Island and single- and multi-family residential uses that front the Bay along 1st Street between Alameda Boulevard and A Avenue. Commercial uses are concentrated toward the eastern end of the north Bayfront, including the Ferry Landing Marketplace, which offers a number of restaurants and small boutique or tourist-oriented shops. A hotel—the Coronado Island Marriott Resort and Spa—is located at the northeast corner of the Coronado Bayfront. Public open spaces along the north Bayfront include Bayview Park at I Avenue and 1st Street, Centennial Park at Orange Avenue and 1st Street, and Coronado Ferry Landing Park at B Avenue and 1st Street. Landside areas along the northern Coronado Bayfront, particularly Coronado Ferry Landing Park, are used as viewing areas for the Big Bay Boom Fourth of July fireworks display event.

The only fireworks display event that currently occurs along the Coronado Bayfront is the Fireworks Show Over Glorietta Bay, a Fourth of July fireworks display event that entails the placement of a single temporary barge at the southeastern corner of Glorietta Bay. Land uses along the east coast of the Coronado Bayfront include a marina, boat rental facilities, yacht clubs, hotels, Coronado Municipal Golf Course, high-rise condominiums, a community center and public parks, and the U.S. Naval Amphibious Base. Public viewing opportunities along the eastern Coronado Bayfront are provided from the waterfront pedestrian paths that are part of the Coronado Community Center, located along the western side of Glorietta Bay, as well as Glorietta Bay Park, located along the southwestern portion of Glorietta Bay, north of the U.S. Naval Amphibious Base.

General Dynamics NASSCO Ship Repair Facility

Existing fireworks display events also occur at the NASSCO ship repair facility, which is located on tidelands adjacent to (west of) the Barrio Logan neighborhood, south of the San Diego-Coronado Bay Bridge, and north of Chollas Creek and Naval Base San Diego. The segment of the Bay spanning from the Coronado Bay Bridge to Chollas Creek is occupied largely by ship repair yards. Adjacent land uses include other shipyards to the north, a naval base to the south, San Diego Bay to the west, and commercial and residential uses associated with the Barrio Logan neighborhood to the east, across Interstate (I-) 5.

Imperial Beach Oceanfront

An existing fireworks display event in Imperial Beach takes place on the Fourth of July near the middle of the approximately 1,300-foot-long Imperial Beach Pier—a publicly accessible pier that provides a promenade and fishing opportunities. A restaurant is located at the end of the Pier. The Imperial Beach Oceanfront area comprises a long, uninterrupted beach that is lined predominantly by residential uses, including single-family homes, condominium complexes, and multi-family apartment complexes. The waterfront area also includes hotels, restaurants, boutique retail shops, and public parks.

National City Bayfront

The vast majority of Bayfront area within National City is occupied by either U.S. Navy shipyards or the National City Marine Terminal. There are other industrial uses, such as metal working businesses and boat repair facilities, in the Bayfront. The nearest publicly accessible park is Pepper Park at the southernmost extent of Tidelands Avenue, approximately 0.45 mile away from the edge of the Bay. Pier 32 Marina is adjacent to Pepper Park, along the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street fill to the south. In addition, Marina Gateway Plaza, which includes a hotel as well as some restaurants and shopping, and the National City Depot, which is a railway museum, are approximately 0.5 mile from the Bayfront. Most of National City's residential uses are east of I-5; however, there are small pockets of residential uses west of I-5 at the corner of Cleveland and 22nd Street. There is also a multi-family building at McKinley Avenue and 18th Street.

Chula Vista Bayfront

Large portions of the Chula Vista Bayfront are dedicated to wildlife reserves and marshes. Other uses include public parks, marinas, a recreational vehicle campground, a salt works operation, and a boat repair facility. Just east of the Bayfront, land uses consists of large, fenced, vacant parcels that have been graded/plowed or minimally paved and a smattering of industrial and institutional uses. I-5 is approximately 0.6 mile east of the Bayfront. Uses to the east of I-5 include residential (e.g., single-family homes, multi-family homes, mobile home parks), retail, hotel, and restaurant uses.

4.7.3 Regulatory Framework

4.7.3.1 Federal

Coastal Zone Management Act of 1972

The U.S. Congress recognized the importance of meeting the challenge of continued growth in the coastal zone by passing the Coastal Zone Management Act in 1972. The act, administered by the National Oceanic and Atmospheric Administration (NOAA) Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources and balances economic development with environmental conservation.

The Coastal Zone Management Act outlines two national programs. The National Coastal Zone Management Program includes 34 coastal programs that aim to balance competing land and water issues in the coastal zone. The National Estuarine Research Reserve System creates field laboratories that provide a greater understanding of estuaries and how humans affect them. The overall program objectives of the act are to “preserve, protect, develop, and, where possible, restore or enhance the resources of the nation's coastal zone.”

The Coastal Zone Management Act ensures that development projects in coastal areas are designed and sited in a manner that is consistent with coastal zone land uses, maximizes public health and safety, and ensures that biological resources (e.g., wetlands, estuaries, beaches, fish and wildlife and their habitat) within the coastal zone are protected. The enforceable policies of that document are found in Chapter 3 of the California Coastal Act of 1976 (as amended). The California Coastal

Commission (CCC or Commission) enforces the Coastal Zone Management Act by certifying that a proposed project is consistent with the California Coastal Act.

National Wildlife Refuge System Administration Act of 1966

The National Wildlife Refuge System Administration Act of 1966 consolidated the various categories of lands, administered by the Secretary of the Interior through the U.S. Fish and Wildlife Service (USFWS), into a single National Wildlife Refuge System. The act establishes a unifying mission for the refuge system, a process for determining compatible uses of refuges, and a requirement for preparing comprehensive conservation plans. The act states, first and foremost, that the mission of the National Wildlife Refuge System be focused singularly on wildlife conservation. In addition, the act identifies six priority wildlife-dependent recreation uses, clarifies the secretary's authority to accept donations of money for land acquisition, and places restrictions on the transfer, exchange, or other disposal of lands within the refuge system (NOAA 2012).

San Diego Bay National Wildlife Refuge Final Comprehensive Conservation Plan and Environmental Impact Statement

The San Diego Bay National Wildlife Refuge is managed by USFWS as part of the National Wildlife Refuge System. A Comprehensive Conservation Plan is prepared pursuant to the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997. USFWS manages the Sweetwater Marsh and South San Diego Bay units of the San Diego Bay National Wildlife Refuge in accordance with the approved Comprehensive Conservation Plan. The Comprehensive Conservation Plan provides long-range guidance on refuge management through its vision, goals, objectives, and strategies. The Comprehensive Conservation Plan also provides a basis for a long-term adaptive management process, including implementing, monitoring progress, evaluating and adjusting, and revising plans accordingly (USFWS 2006).

4.7.3.2 State

California Coastal Act

The CCA went into effect on January 1, 1977, and granted the Commission authority to review and approve plans and projects located within the coastal zone. Under the CCA, cities and counties are encouraged to prepare Local Coastal Programs that guide implementation of conservation, development, and regulatory policies required by the CCA within the local coastal zone. Within port districts, PMPs serve this same function under the CCA. The draft PMP is then submitted to the CCC for certification, which ensures that the plan complies with the CCA. Once the PMP is certified, the District is then authorized to issue Coastal Development Permits (CDPs), as prescribed by the adopted PMP for coastal zone projects within its jurisdiction. The District's PMP was certified by the CCC on January 21, 1981. The District is authorized to issue CDPs for projects within its jurisdiction.

Although certain aspects of fireworks display events occur within the District's jurisdiction (e.g., loading and setting up fireworks on barges), other aspects of some fireworks displays (e.g., launching fireworks from barges) occur in waters of San Diego Bay, which are outside the District's jurisdiction but within the jurisdiction of the California State Lands Commission (CSLC). The CCC retains coastal permitting authority over waters within the CSLC's jurisdiction. Therefore, the

District is responsible for determining whether a CDP is required for some fireworks display events, while the CCC makes the CDP determination for other fireworks display events.

Fireworks display events are not explicitly discussed in the CCA or within the PMP. However, the CCC has previously issued exemptions from having to obtain a CDP under the Guidelines for the Exclusion of Temporary Events from Coastal Commission Permit Requirements (Guidelines) for existing fireworks display events, such as the Big Bay Boom. Similarly, for the Fourth of July Imperial Beach Fireworks Show, the District previously issued exclusions from the requirement to obtain a CDP, pursuant to the District's CDP regulations. All existing fireworks display events occurring within San Diego Bay and the Imperial Beach Oceanfront, whether in the CCC's or District's jurisdiction, are subject to review under the CCA.

California Public Trust Doctrine

The Public Trust Doctrine is a common law doctrine that provides that public lands and waters are held by the state or its delegated trustee (i.e., CSLC) for the benefit of all of the people of California. All tidelands and submerged lands, granted or ungranted, as well as navigable rivers, sloughs, etc., are covered under the Public Trust Doctrine. The Public Trust Doctrine, as overseen by CSLC, restricts the types of land uses allowed on public lands, including within the District's jurisdiction. The Public Trust Doctrine limits the uses of sovereign lands to waterborne commerce, navigation, fisheries, open space, water-oriented recreation, ecological habitat protection, or other recognized public trust purposes. As discussed in Chapter 1, *Introduction*, because the barges associated with the proposed new fireworks display events would be held in place by tugs and not anchored or moored, no land use approvals from CSLC would be required (Collins pers. comm.).

Port Act

The Port Act (Appendix 1 of the California Harbor and Navigation Code) was adopted in 1962. Through the Port Act, the State of California delegated its authority to the District to manage and control certain tidelands and submerged waters. Specifically, the District was established for the development, operation, maintenance, control, regulation, and management of the tidelands and lands underlying the inland navigable waters of San Diego Bay. Under the Port Act, the District was granted broad police powers. The Port Act requires the District to exercise its land management authority and powers over (1) the tidelands and submerged lands granted to the District and (2) any other lands conveyed to the District by any city or the County of San Diego or acquired by the District. The Port Act grants the District exclusive police power over property and development subject to its jurisdiction. A PMP is also required by the Port Act, which must specify the land and water uses within the District's jurisdiction.

California State Lands Commission Strategic Plan

The CSLC Strategic Plan (2016–2020), adopted on December 18, 2015, contains strategic goals and key actions that have been designed to guide CSLC in managing and protecting important natural resources on public lands within the state of California, including the tidelands and submerged lands within the jurisdiction of the District. Strategies applicable to the goals of the proposed project include the following:

Strategy 1.1 – Provide the highest levels of public health and safety and the protection and preservation of lands and resources under the Commission's jurisdiction.

Key Action 1.1.1 – Incorporate best management practices (BMPs) and other provisions into new and renewed leases to promote public health and safety and protect the environment.

Strategy 1.4 – Incorporate into the Commission’s project analyses and decision-making processes strategies to address climate change, sea-level rise, greenhouse gas emissions, water conservation, and the generation of litter and marine debris.

4.7.3.3 Local

Port Master Plan

The PMP guides the physical development of the lands within the District’s jurisdiction and also serves as the District’s coastal program for purposes of the CCA, described above. The District’s jurisdiction includes the public trust lands (i.e., tidelands) bayward of the mean high-tide line, submerged lands generally to the U.S. Pierhead Line, and other upland properties, as acquired by the District. The District manages these lands in trust for the people of the state of California.

The PMP is the primary document that governs land and water uses within the District’s jurisdiction, including some of the project sites. The PMP is organized into four sections: (I) Introduction, (II) Planning Goals, (III) Master Plan Interpretation, and (IV) Precise Plans. Section II establishes planning goals and related policies that pertain to development and operation of lands within the District’s jurisdiction. Section III provides additional land use objectives and criteria that apply to specific land use types, including commercial, industrial, recreation, conservation, military, and public facility uses. Section IV identifies 10 planning districts, each of which is guided by a Precise Plan that guides future development. The proposed ordinance would apply to fireworks display events that occur within and/or adjacent to the following planning districts.

- Planning District 1 (Shelter Island/La Playa)
- Planning District 2 (Harbor Island/Lindbergh Field)
- Planning District 3 (Centre City Embarcadero)
- Planning District 4 (Tenth Avenue Marine Terminal)
- Planning District 5 (National City Bayfront)
- Planning District 6 (Coronado Bayfront)
- Planning District 7 (Chula Vista Bayfront)
- Planning District 10 (Imperial Beach Oceanfront)

Descriptions of the land and water uses for each project area are discussed below.

Shelter Island

Shelter Island is within Planning District 1 of the PMP. The land and water use designations for this area include, but are not limited to, a combination of marine sales and services, commercial recreation, commercial fishing, park, open space, boat anchorage, recreational boat berthing, and military uses. The PMP states that the intent of this planning district is to retain present land use allocations while making some improvements through extensive renovation of older facilities, improvements to the quality of the landscape, and improvements to visual and physical access to the Bayfront. It foresees the continuation of planned land and water uses for the Shelter Island area.

Harbor Island

Harbor Island is within Planning District 2 of the PMP. The land and water use designations for this site include, but are not limited to, a combination of commercial recreation, aviation-related commercial and industrial, park/plaza, boat anchorage, open bay, and specialized berthing. The PMP states that the intent of this planning district is to retain and continue aviation-related industries and commerce. It foresees a focus on public parks and tourist/commercial uses within the planning district.

Centre City Embarcadero

Centre City Embarcadero is within Planning District 3 of the PMP. The land and water use designations for this area include, but are not limited to, a combination of commercial recreation, commercial fishing, marine terminal, aviation-related industrial, park/plaza, specialized berthing, and ship anchorage. The PMP states that the intent of this planning district is to continue to create a unified waterfront, both visually and physically, while implementing extensive renovations and development plans, which include commercial recreation, county government administration, and U.S. Navy uses. It also plans for the continuation of public parks and tourist/commercial uses within the planning district. In addition, the PMP envisions replacing the existing Grape Street Pier with a 30,000-square-foot curvilinear pier, with a 12,000-square-foot public boat dock, designated as “park plaza.” The waterside termination of this pier is designated as “commercial recreation” to allow possible development of a commercial facility.

Tenth Avenue Marine Terminal

The Tenth Avenue Marine Terminal, including the NASSCO ship repair facility, is within the PMP’s Planning District 4. The land and water use designations for this area include, but are not limited to, marine terminal, marine-related industrial, park/plaza, terminal berthing, and specialized berthing. The PMP envisions continued use and intensification of the marine-related industrial uses in this area as well as continuation of the park use in this area.

National City Bayfront

The National City Bayfront is within the PMP’s Planning District 5. The land and water use designations for this area include, but are not limited to, Navy ship berthing, marine-related and marine terminal industrial, terminal berthing, park/plaza, recreational boat berthing, and commercial recreation. The PMP envisions continued use and intensification of the marine-related uses in this area.

Coronado Bayfront

The Coronado Bayfront, including Glorietta Bay, is within the PMP’s Planning District 6. The land and water use designations for this area include, but are not limited to, commercial recreation, recreational boat berthing, golf course, park/plaza, and boat anchorage. The PMP envisions the continuation of commercial, park, and marina-related uses.

Chula Vista Bayfront

The Chula Vista Bayfront is within the PMP’s Planning District 7. The land and water use designations for this area include, but are not limited to, a combination of commercial recreation,

industrial business park, park/plaza, wetlands, estuary, and boat navigation corridor. The PMP states that the intent of this planning district is to transform the planning district into a world-class Bayfront by emphasizing public waterfront amenities to enhance the Bayfront's natural and economic resources. It foresees the development of approximately 556 acres of Chula Vista Bayfront, which will include public parks and commercial recreational uses. Although the District's planning policy encourages marine-related industrial uses, the plan provides the opportunity to attract new industrial, business/commercial, and commercial recreational development to this planning district.

Imperial Beach Oceanfront

The Imperial Beach Oceanfront is located within the PMP's Planning District 10. Land and water use designations within the District's jurisdiction for this area include commercial recreation, park, and open ocean. The PMP anticipates more intensive development for the Pier when market conditions allow. This would involve construction of a pier saddle and platform to accommodate a restaurant and other appropriate visitor-serving uses.

San Diego Unified Port District Code, Ordinance 19

Sections 55 and 56 of the San Diego Unified Port District Act require the Board of Port Commissioners to make and enforce necessary rules and regulations governing the use and control of all navigable waters, tidelands, and submerged lands within the District and to make and enforce certain local police and sanitary regulations related to the District. As such, the adoption of Ordinance 19 established a system for the codification of District ordinances.

Ordinance 19 covers topics such as watercraft speed regulations, aquatic activities, anchoring or mooring in the Bay, park regulations, diving activities, alcohol use, stormwater control, fishing, and others. Specific to the proposed project, Sections 4.30, 4.35, 4.36, and 4.40 of Ordinance 19 establish restrictions for anchoring and mooring vessels, such as fireworks barges, in the Bay, including the identification of allowable anchoring activities and areas.

Chula Vista Bayfront Master Plan Natural Resources Management Plan

The Chula Vista Bayfront Master Plan Natural Resources Management Plan (NRMP) was prepared by the District and the City of Chula Vista and adopted in May 2016. It contains goals, objectives, and strategies for promoting and enhancing natural resources within the 535-acre Chula Vista Bayfront area. It serves as an important environmental guidance and implementation document, applicable to all development within the Chula Vista Bayfront area. All projects, both public and private, will be evaluated by the District and City of Chula Vista relative to furthering the goals, objectives, standards, and strategies contained therein. The Chula Vista Bayfront Master Plan NRMP allows a maximum of three fireworks display events to occur per year, all outside of the California least tern nesting season (March 15 through August 31), except on the Fourth of July, which may be allowed if in full regulatory compliance and if nesting colonies are monitored during the event, with any impacts reported to the Wildlife Advisory Committee so they can be addressed.

San Diego Bay Integrated Natural Resources Management Plan

The San Diego Bay Integrated Natural Resources Management Plan (INRMP) is a long-term strategy sponsored by two of the major managers of San Diego Bay: the U.S. Navy and District. Its intent is to

provide direction for the good stewardship that natural resources require while also supporting the ability of the Navy and District to meet their missions and continue functioning within the Bay. The core strategies of the plan are to (1) manage and restore habitats, populations, and ecosystem processes; (2) plan and coordinate projects and activities so that they are compatible with natural resources; (3) improve information sharing, coordination, and dissemination; (4) conduct research and long-term monitoring that supports decision-making; and (5) put in place a Stakeholder's Committee and Focus Subcommittees for collaborative, ecosystem-based problem-solving in pursuit of the goal and objectives.

4.7.4 Project Impact Analysis

4.7.4.1 Methodology

The following impact analysis evaluates the land use and planning impacts that would result should the proposed project be implemented. The impact analysis provides a project consistency analysis with respect to applicable plans and regulations, based on the existing regulations described in Section 4.7.3. Merely being inconsistent with an existing plan or regulation is not necessarily a significant impact under CEQA; rather, the inconsistency must result in a substantial adverse effect on the environment.

4.7.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining the significance of impacts associated with land use and planning resulting from implementation of the proposed project. The determination of whether a land use and planning impact would be significant is based on the thresholds described below and the professional judgment of the District as lead agency, as supported by the recommendations of qualified personnel at ICF, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following:

1. Physically divide an established community.
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.
3. Conflict with any applicable habitat conservation plan or natural community conservation plan.

The analysis of whether the proposed project would have a significant impact on land use under Threshold 1 is provided in Section X of the Initial Study/Environmental Checklist (Appendix A of this Draft EIR), which determined that the project would not physically divide an established community. The analysis and conclusions therein are incorporated by reference into this section of the Draft EIR and are summarized in Chapter 6, *Additional Consequences of Project Implementation*. Therefore, only Thresholds 2 and 3 are discussed in the impact analysis that follows.

4.7.4.3 Project Impacts and Mitigation Measures

Threshold 2: Implementation of the proposed project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

Impact Discussion

The applicable land use plans, policies, or regulations of the District, adopted for the purpose of avoiding or mitigating an environmental effect, are the PMP, San Diego Unified Port District Code, Chula Vista Bayfront Master Plan NRMP, and the San Diego Bay INRMP.

Proposed New Fireworks Display Events

The proposed project includes up to four proposed new fireworks display events per year in San Diego Bay, including up to three fireworks display events along the Chula Vista Bayfront, as allowed by the Chula Vista Bayfront Master Plan Settlement Agreement and NRMP, and one proposed new Fourth of July fireworks display event along the National City Bayfront. Consistency of the proposed new fireworks display events with the goals and policies of the PMP are detailed in Table 4.7-1, below. Sections 4.30, 4.35, 4.36, and 4.40 of Ordinance 19 of the San Diego Unified Port District Code establish restrictions for anchoring and mooring of vessels such as fireworks barges in the Bay, including the identification of allowable anchoring activities and areas. However, barges for the proposed new fireworks display events would be held in place by tugboats and would not be anchored in the Bay. Therefore, the proposed new fireworks display events would not conflict with the San Diego Unified Port District Code. Consistency of the proposed new fireworks display events with the Chula Vista Bayfront Master Plan NRMP and the San Diego Bay INRMP are discussed under Threshold 3, below.

The CCA governs all coastal resources planning and management and protects public access and recreation within the coastal zone. The CCA generally aims to protect the overall quality of the coastal zone, including its natural and artificial resources, ensure a balance between coastal resource conservation and the social and economic needs of the people of the state, maximize public access and public recreational opportunities within the coastal zone, and prioritize coastal-dependent and coastal-related development along the coast. Under the CCA, the Commission is granted authority to review and approve plans and projects located within the coastal zone. The Commission has, in the past, processed CDPs for fireworks display events within other areas of the coastal zone throughout California, including those that involve potential impacts related to public use of sandy beaches or other public access areas as well as marine and habitat resources. In other instances, the Commission has not required a CDP for a fireworks display event when it can be determined that the specific temporary event would not have any significant adverse impact on coastal resources. For these events, CCC issues an exemption from being required to obtain a CDP under the Guidelines. The Guidelines were developed to minimize permitting burdens for the vast majority of temporary events that do not raise CCA concerns and provide procedures that the Commission can use to determine whether a temporary event is excluded from CDP requirements, pursuant to Public Resources Code Section 30610(i). As defined in the Guidelines, a temporary event means an activity or use that constitutes development, as defined in Section 30106 of the Coastal Act, of limited duration; involves the placement of non-permanent structures; and/or involves

exclusive use of a sandy beach, parkland, filled tidelands, water, streets, or a parking area that is otherwise open and available for general public use.

As part of the proposed project, the proposed new fireworks display events that would occur within San Diego Bay along the National City and Chula Vista Bayfronts, whether in CCC’s or District’s jurisdiction, would be subject to the CCA. An analysis of the proposed new fireworks display events’ consistency with the applicable policies of the CCA is discussed in Table 4.7-2. As shown in Tables 4.7-1 and 4.7-2, the proposed new fireworks display events would be consistent with the PMP and the CCA. Consequently, impacts related to conflicts with a land use plan, policy, or regulation adopted for the purpose of avoiding an environmental effect would be less than significant.

Table 4.7-1 Project Consistency with Port Master Plan

Goal, Policy, Objective	Proposed Project Consistency
<p>Planning Goal VIII. The District will enhance and maintain the bay and tidelands as an attractive physical and biological entity.</p> <ul style="list-style-type: none"> • Each activity, development, and construction project should be designed to best facilitate its particular function, which should be integrated with and related to the site and surroundings of that activity. • Views should be enhanced through view corridors, the preservation of panoramas, accentuation of vistas, and shielding of the incongruous and inconsistent. • Establish guidelines and standards facilitating the retention and development of an aesthetically pleasing tideland environment free of noxious odors, excessive noise, and hazards to the health and welfare of the people of California. • Establish and foster an artworks program to promote, enhance, and enliven the waterfront experience through the public and private placement of works of art. 	<p>Consistent. The proposed project does not involve any physical construction and would not interfere with views of the Bay and tidelands. The proposed new fireworks display events would be temporary in nature and would occur on an infrequent basis. Consequently, no long-term impacts would occur with implementation of the proposed project. The proposed project would not present noxious odors, excessive noise, beyond what is traditionally generated by fireworks display events, or hazards to the health and welfare of the people of California, as ensured by the post-fireworks display event cleanup practices required by the proposed ordinance, which include water quality maintenance and removal of debris (see Section 4.6, <i>Hydrology and Water Quality</i>). The proposed new fireworks display events would be open to the public to promote, enhance, and enliven the waterfront experience. The proposed ordinance would establish guidelines and standards for fireworks display events to ensure that the aesthetically pleasing tidelands environment is retained. In addition, restriction of public access would not occur under the proposed project. As such, the proposed new fireworks display events would be consistent with this planning goal.</p>
<p>Planning Goal X. The quality of water in San Diego Bay will be maintained at such a level as will permit human water contact activities.</p> <ul style="list-style-type: none"> • Maintain a program of flotsam and debris cleanup. • Ensure through lease agreements that District tenants do not contribute to water pollution. • Cooperate with the Regional Water Quality Control Board (RWQCB), the County Health Department, and other public agencies in a continual program of monitoring water quality and identifying the source of any pollutant. • Adopt ordinances and take other legal and 	<p>Consistent. The proposed project involves adoption of an ordinance to regulate fireworks display events that require a discretionary action by the District or are operated by the District’s tenants that occur throughout the year in and around San Diego Bay and the Imperial Beach Oceanfront and includes the addition of up to four new fireworks display events per year. Mitigation measure MM-WQ-1 requires implementation of the water quality-related conditions of the proposed ordinance. These condition of approval require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best management practices, a reduction in the amount of non-biodegradable fireworks components, and compliance</p>

Goal, Policy, Objective	Proposed Project Consistency
<p>remedial action to eliminate sources of pollution.</p>	<p>with RWQCB’s general permit and other required permits, including post-fireworks display event cleanup of debris and solid waste. Land- and waterside cleanup activities are further described in Section 4.6, <i>Hydrology and Water Quality</i>.</p>
<p>Planning Goal XI. The District will protect, preserve, and enhance natural resources, including natural plant and animal life in the bay, as a desirable amenity, an ecological necessity, and a valuable and usable resource.</p> <ul style="list-style-type: none"> • Promote and advance public knowledge of natural resources through environmental educational materials. • Identify existing and potential assets. • Keep appraised of the growing body of knowledge on ecological balance and interrelationships. • Encourage research, pilot programs, and development in aquaculture as long as it is consistent with this goal. • Administer natural resources so that impacts on natural resource values remain compatible with the preservation requirements of the public trust. 	<p>Consistent. The proposed new fireworks display events allowed under the proposed project would be temporary in nature and occur on an infrequent basis. Consequently, any potential significant impacts on biological resources resulting from the proposed new fireworks display events would be short term and temporary. As discussed in Section 4.3, <i>Biological Resources</i>, the proposed ordinance would include several conditions of approval for protecting biological resources to ensure that natural resources and animal life in the Bay are protected throughout the proposed new fireworks display events. Furthermore, the proposed ordinance would also include conditions to encourage visitors to remain in designated viewing areas and employ safe boating procedures in order to protect sensitive habitats of San Diego Bay. Implementation of these conditions of approval are required by MM-BIO-1 and MM-BIO-2. No food sources for wildlife would be affected by the proposed new fireworks display events.</p>
<p>Conservation Element – Land Use Objectives and Criteria. Natural marine resource utilization activities on tidelands should:</p> <ul style="list-style-type: none"> • Be planned and located so as to present minimum conflicts with existing and proposed incompatible uses. • Promote multiple utilization of the unique plant, shellfish, fish and wildlife resources of the bay. • Encourage the protection and restoration of functional areas that have a high ecological value. • Be accessible to the public for non-appropriative uses, consistent with nature interpretive functions. • Enhance the open space character of the bay. 	<p>Consistent. The proposed project would not involve any physical development and would not interfere with natural marine resource utilization on tidelands.</p>
<p>Public Recreation – Land Use Objectives and Criteria. Parks, plazas, public access ways, vista points, and recreational activities on District lands and tidelands should:</p> <ul style="list-style-type: none"> • Provide a variety of public access and carefully selected active and passive recreational facilities suitable for all age groups, including families with children, throughout all seasons of the year. • Enhance the marine, natural resource, and 	<p>Consistent. The proposed project would not involve any physical development and would not interfere with public recreational opportunities on tidelands. The proposed project consists of an ordinance to govern fireworks display events that require a discretionary action by the District or are operated by the District’s tenants. Because the proposed new fireworks display events would occur throughout the year in and around San Diego Bay, the proposed project would provide the opportunity for an increased variety of public recreation that would be suitable for all age groups of the general</p>

Goal, Policy, Objective	Proposed Project Consistency
<p>human recreational assets of San Diego Bay and its shoreline for all members of the public.</p> <ul style="list-style-type: none"> Provide for clear and continuous multilingual information throughout District lands and facilities to and about public access ways and recreational areas. 	<p>public.</p>

Table 4.7-2. Consistency with California Coastal Act, Chapters 3 and 8

Policy Text	Proposed Project Consistency
<p>30210. In carrying out the requirements of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people, consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.</p>	<p>Consistent. Fireworks display events are temporary in nature, and the proposed project does not involve any landside or waterside construction, either in the coastal zone or otherwise, that would have a permanent effect on public access within the coastal zone. Proposed new fireworks display events are anticipated to be cost-free, public, and temporary. All normally accessible areas would remain open and available to the general public, with the exception of any immediate fireworks launch site and associated fireworks safety zone. These restrictions ensure the safety of the public.</p>
<p>30211. Development shall not interfere with the public’s right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.</p>	<p>Consistent. The proposed project does not involve any physical development that could permanently interfere with the public’s right of access to the sea. Proposed new fireworks display events would not interfere with existing waterfront areas that are open to the public and would not include any restrictions on public access to parking lots, upland public recreational areas, or sandy beach, nor are they anticipated to include an admission charge that could discourage low-income individuals from attending the event.</p>
<p>30212(a). Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources; (2) adequate access exists nearby; or (3) agriculture would be adversely affected.</p>	<p>Consistent. The proposed project does not involve any physical development that could permanently interfere with public access from the nearest public roadway to the shoreline or along the coast. During fireworks display events associated with the proposed project, public access would be primarily maintained, except for when it is determined necessary to restrict public access to protect fragile coastal resources. No public streets are anticipated to be closed to accommodate the fireworks display events.</p>
<p>30224. Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new</p>	<p>Consistent. The proposed new fireworks display events associated with the proposed project would temporarily affect the ability of boaters to use portions of the normally accessible waters in San Diego Bay during the time of the events; however, this impact would be minimal because of the short duration of the proposed new fireworks display events (20 minutes maximum during a Fourth of July display) and infrequent. Additionally, the use of waters by recreational boaters</p>

Policy Text	Proposed Project Consistency
<p>boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.</p>	<p>would not be entirely prohibited during fireworks display events, but rather would be restricted to occur outside of U.S. Coast Guard–designated safety zones during the display. All other normally available areas would continue to be available for use by boaters during the proposed new fireworks display events.</p>
<p>30230. Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.</p>	<p>Consistent. Fireworks display events are temporary and infrequent in nature, and the proposed project does not involve any landside or waterside construction, either in the coastal zone or otherwise, that would have a permanent effect on coastal resources within the coastal zone. Consequently, any potential impacts on biological resources resulting from the proposed new fireworks display events would be short term and temporary. As discussed in Section 4.3, <i>Biological Resources</i>, the proposed ordinance includes several conditions of approval for protecting biological resources, which would ensure that natural resources and animal life in the Bay would be protected throughout the proposed new fireworks display events. Implementation of these conditions of approval are required by MM-BIO-1 and MM-BIO-2. Implementation of MM-BIO-1 and MM-BIO-2 would help to ensure that future uses of the marine environment would be carried out in a manner that sustains the biological productivity of coastal waters and maintains healthy populations of all species of marine organisms for long-term commercial, recreational, scientific, and educational purposes, as required by this policy. Furthermore, the proposed new fireworks display events that would occur within San Diego Bay along the National City and Chula Vista Bayfronts would be subject to CCC or District review for CCA consistency. The requirement to obtain CCC or District approval demonstrates consistency with the CCA.</p>
<p>30232. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.</p>	<p>Consistent. The proposed project does not involve any landside or waterside construction, either in the coastal zone or otherwise, that would involve the routine use of crude oil, gas, petroleum products, or other hazardous substances. However, the proposed new fireworks display events would involve the infrequent and temporary use of fireworks, requiring the detonation of petroleum-based chemicals, as well as the temporary use of barges, requiring petroleum-based products for propulsion. The fireworks would be set up at a loading facility yard in accordance with the California Department of Forestry and Fire Protection’s <i>Fireworks in California</i> handbook (Appendix C), which is enforced by the responsible city fire department with jurisdiction over each show. It is possible that gasoline, oil, other vehicle-related fluids, paints, solvents, and metals could be released by trucks on land during the transportation of pyrotechnic devices or by tugboats or other vessels in the water during operation of a fireworks display event.</p>

Policy Text	Proposed Project Consistency
	<p>As discussed in Section 4.5, <i>Hazards and Hazardous Materials</i>, required compliance with existing laws and regulations would ensure that the potential for a significant hazard to occur from routine transport, use, or disposal of hazardous materials would be less than significant. Additionally, mitigation measure MM-WQ-1 requires implementation of the water quality-related conditions of the proposed ordinance. These conditions of approval require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best management practices, a reduction in the amount of non-biodegradable fireworks components, and compliance with RWQCB's general permit and other required permits, including post-fireworks display event cleanup of debris and solid waste. Land- and waterside cleanup activities are further described in Section 4.6, <i>Hydrology and Water Quality</i>.</p>
<p>30240. (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.</p>	<p>Consistent. There is no environmentally sensitive habitat area within the proposed project sites. As such, the proposed project would not have the potential to significantly disrupt environmentally sensitive habitat areas. Fireworks display events are temporary and infrequent in nature, and the proposed project does not involve any landside or waterside construction, either in the coastal zone or otherwise, that would have a permanent effect on coastal resources within the coastal zone. Consequently, any potential significant impacts on biological resources, including habitat areas, would be short term and temporary. The proposed new fireworks display events would not occur immediately within any sensitive habitat areas. However, some fireworks display events would occur in the vicinity of sensitive habitat areas. The proposed ordinance includes several conditions of approval for protecting biological resources to ensure that natural resources, including sensitive habitats, in and around the Bay are protected throughout the proposed new fireworks display events. Implementation of these conditions of approval are required by MM-BIO-1 and MM-BIO-2. Additionally, the proposed new fireworks display events that would occur within San Diego Bay along the National City and Chula Vista Bayfronts would be subject to CCC or District review for CCA consistency. The requirement to obtain CCC or District approval demonstrates consistency with the CCA.</p>
<p>30253(a). New development shall do all of the following: (a) minimize risks to life and property in areas of high geologic, flood, and fire hazard.</p>	<p>Consistent. All proposed new fireworks display events would occur over water, which substantially reduces the potential for fire hazards. The proposed new fireworks display events would be launched from barges within San Diego Bay. The proposed ordinance would include conditions of approval to comply with all applicable laws and regulations that would address fire hazards and</p>

Policy Text	Proposed Project Consistency
<p>30708. All port-related developments shall be located, designed, and constructed so as to:</p> <ul style="list-style-type: none"> (a) Minimize substantial adverse environmental impacts. (b) Minimize potential traffic conflicts between vessels. (c) Give highest priority to the use of existing land space within harbors for port purposes, including, but not limited to, navigational facilities, shipping industries, and necessary support and access facilities. (d) Provide for other beneficial uses consistent with the public trust, including, but not limited to, recreation and wildlife habitat uses, to the extent feasible. (e) Encourage rail service to port areas and multi-company use of facilities. 	<p>ensure public safety during the proposed new fireworks display events. Additionally, all proposed new fireworks display events would be required to comply with the state and local laws set forth in the California Department of Forestry and Fire Protection’s <i>Fireworks in California</i> handbook (Appendix C), which are enforced by the responsible city fire department with jurisdiction over each show.</p> <p>Consistent. The proposed project does not involve any physical construction and would not interfere with traffic between vessels, land use within harbors for port purposes, or rail service to port areas and multi-company use of facilities. As discussed in this Draft EIR, the proposed ordinance would include various conditions of approval to avoid adverse environmental impacts associated with the proposed new fireworks display events. In addition, mitigation measures would be implemented to minimize significant environmental impacts. Furthermore, the proposed project would enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events that are open to the public. By enhancing the public’s experience within District tidelands, the proposed project would be promoting publicly beneficial uses of trust lands, consistent with the Public Trust Doctrine.</p>

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District’s tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval to address issues such as air quality, biological resources, water quality, and traffic and improve the existing condition related to existing fireworks display events. Because the proposed ordinance would improve the existing condition in terms of the aforementioned resources, among others, it would be consistent with applicable land use plans, policies, and regulations of the District adopted for the purpose of avoiding or mitigating an environmental effect, including the PMP and San Diego Unified Port District Code. Therefore, the effects of the proposed ordinance on existing fireworks display events would not conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of

avoiding or mitigating an environmental effect. Impacts would be less than significant, and no mitigation measures are required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impact would occur.

Threshold 3: Implementation of the proposed project would not conflict with an applicable habitat conservation plan or natural community conservation plan.

Impact Discussion

The following impact analysis considers whether the proposed project would conflict with applicable habitat conservation plans or natural community conservation plans. The habitat conservation plans or natural community conservation plans that apply to the proposed project are the San Diego Bay INRMP, Chula Vista Bayfront Master Plan NRMP, and San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. Other adopted conservation plans in the vicinity of the proposed project, which do not apply to the District, include the City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan and the City of Chula Vista MSCP Subarea Plan. Section 4.3, *Biological Resources*, of this Draft EIR considers whether the proposed project would conflict with these other conservation plans.

Proposed New Fireworks Display Events

As mentioned, three habitat conservation plans are applicable to the proposed project, including the San Diego Bay INRMP, Chula Vista Bayfront Master Plan NRMP, and San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. As summarized in Tables 4.7-3 through 4.7-5, below, the proposed new fireworks display events would not conflict with the goals of the San Diego Bay

INRMP, Chula Vista Bayfront Master Plan NRMP, and San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan because they would not significantly affect any sensitive species or habitats in and adjacent to the Bay with compliance with the biological resources-related conditions of the proposed ordinance and implementation of the mitigation measures described in Section 4.3, *Biological Resources*. The proposed new fireworks display events would be consistent with the San Diego Bay INRMP, Chula Vista Bayfront Master Plan NRMP, and San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan and would not result in any significant direct impacts on habitat within the identified areas of biological significance and conservation (see Section 4.3, *Biological Resources*, of this Draft EIR for a detailed discussion of impacts on habitats and natural communities). Therefore, there would be no conflicts with these applicable habitat conservation plans.

Table 4.7-3. Consistency with the San Diego Bay INRMP

Plan Text	Proposed Project Consistency
<p>Protected Sites – Objective 4.2.1. Ensure effective protection of a minimum quantity and quality of the remaining marine and coastal habitat in San Diego Bay, targeting a mix of habitat types that maximizes ecosystem function and carrying capacity.</p>	<p>Consistent. The proposed ordinance includes several conditions of approval for protecting biological resources to ensure that the quality of the remaining marine and coastal habitat in the vicinity of the proposed new fireworks display events would be protected. The proposed ordinance includes conditions related to post-firework display event cleanup practices, consistent with the general permit; a reduction in the amount of non-biodegradable fireworks components that can be used; and conditions to reduce trespassing into sensitive habitat. Implementation of these conditions of approval are required by MM-BIO-1 and MM-BIO-2. Furthermore, as required by the Chula Bayfront Master Plan Settlement Agreement and NRMP, monitoring of avian species will be conducted during the Fourth of July fireworks display event along the Chula Vista Bayfront (see Section 4.3, <i>Biological Resources</i> and Section 4.6, <i>Hydrology and Water Quality</i>).</p>
<p>Oil Spill Prevention and Cleanup – Objective 5.4.2. Prevent spills of oil and other hazardous substances, and ensure the effectiveness of prevention and response planning.</p>	<p>Consistent. The proposed project does not involve any landside or waterside construction, either in the coastal zone or otherwise, that would involve the routine use of crude oil, gas, petroleum products, or other hazardous substances. However, the proposed new fireworks display events would involve the infrequent and temporary use of fireworks, requiring the detonation of petroleum-based chemicals, as well as the temporary use of barges, requiring petroleum-based products for propulsion. The fireworks would be set up at a loading facility yard in accordance with the California Department of Forestry and Fire Protection’s <i>Fireworks in California</i> handbook (Appendix C), which is enforced by the responsible city fire department with jurisdiction over each show. It is possible that gasoline, oil, other vehicle-related fluids, paints, solvents, and metals could be released by trucks on land during the transportation of pyrotechnic devices or by tugboats or</p>

Plan Text	Proposed Project Consistency
	<p>other vessels in the water during operation of a fireworks display event. As discussed in Section 4.5, <i>Hazards and Hazardous Materials</i>, required compliance with existing laws and regulations would ensure that the potential for a significant hazard to occur from the routine transport, use, or disposal of hazardous materials would be less than significant. Additionally, mitigation measure MM-WQ-1 requires implementation of the water quality-related conditions of the proposed ordinance. These conditions of approval require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best management practices, a reduction in the amount of non-biodegradable fireworks components, and compliance with RWQCB's general permit and other required permits, including post-fireworks display event cleanup of debris and solid waste. Land- and waterside cleanup activities are further described in Section 4.6, <i>Hydrology and Water Quality</i>. As such, the proposed new fireworks display events would be consistent with this objective.</p>
<p>Cumulative Effects – Objective 5.5. Minimize adverse cumulative effects on habitats and species of the bay ecosystem.</p>	<p>Consistent. As discussed in Chapter 5, <i>Cumulative Impacts</i>, the proposed ordinance includes several conditions of approval for protecting biological resources to ensure that natural resources and animal life in the Bay are protected throughout the proposed new fireworks display events. With implementation of MM-BIO-1 and MM-BIO-2, which require compliance with the biological resources-related conditions of the proposed ordinance, potential adverse cumulative effects on habitats and species of the Bay ecosystem would be minimized.</p>

Table 4.7-4. Consistency with the Chula Vista Bayfront Master Plan Natural Resources Management Plan

Plan Text	Proposed Project Consistency
<p>Objective 3.2-4: Deposition of Air Pollutants. Minimize aerial deposition of pollutants within the [Chula Vista Bayfront Master Plan] watershed and marine waters that come from sources such as car exhaust, boat exhaust, and fireworks.</p> <p>I. A maximum of three fireworks events can be held, outside of California least tern nesting season (March 15 through August 31), except Fourth of July, which may be allowed if in full regulatory compliance and if nesting colonies are monitored during the event, with any impacts reported to the Wildlife Advisory Committee so they can be addressed. All shows must comply with all applicable water quality and species</p>	<p>Consistent. The proposed new fireworks display events held within the Chula Vista Bayfront Master Plan area would be limited to three per year and would be in full regulatory compliance, pursuant to the Chula Vista Bayfront Master Plan Settlement Agreement and NRMP. One proposed new Fourth of July fireworks display event would occur within the California least tern nesting season; however, the proposed ordinance includes a number of noise- and light-reduction conditions of approval for the proposed new fireworks display events that would occur during the breeding season. Implementation of these conditions would be required by MM-NOI-1.</p>

Plan Text

protection regulations. All shows must be consistent with policies, goals, and objectives in the NRMP (Settlement Agreement 4.9.2; MMRP 4.8-6)

Objective 4.5-1. Fireworks Shows. Regulate and monitor fireworks shows to avoid and minimize impacts on native wildlife.

I. Per the Settlement Agreement and the MMRP of the EIR:

A. A maximum of three fireworks events can be held (Settlement Agreement 4.9.2; MMRP 4.8-6).

B. All shows are to be held outside of California least tern nesting season, except a Fourth of July fireworks show, which is permitted only if it is in full regulatory compliance and accompanied by monitoring of nesting colonies during the event. Any impacts on the nesting colonies during the event would be reported to the Wildlife Advisory Committee so they can be addressed (Settlement Agreement 4.9.2; MMRP 4.8-6).

C. All shows must comply with all applicable water quality and species protection regulations and be consistent with all other goals and objectives contained in this NRMP (Settlement Agreement 4.9.2; MMRP 4.8-6).

II. Fireworks shows should be appropriately located and timed to avoid as much disturbance to wildlife as possible. Adaptive management for placement and timing, based on monitoring results, is recommended.

III. Fireworks shows are encouraged to be low-noise producing, with display altitudes adjusted pursuant to the best available science to minimize disruption to bird species. The duration of shows should remain as short as feasible to limit the duration of potential noise impacts. Whirling, sonic booms, and similar types of fireworks are discouraged.

MMRP = Mitigation Monitoring and Reporting Plan

Proposed Project Consistency

Additionally, the Chula Vista Bayfront Settlement Agreement and NRMP require monitoring of least tern nests during the proposed new Fourth of July fireworks display events along the Chula Vista Bayfront (see Section 4.3, *Biological Resources*). Any impacts on least terns would be reported to the Wildlife Advisory Committee to be addressed pursuant to the Chula Vista Bayfront Master Plan Settlement Agreement.

Consistent. The proposed new fireworks display events in the Chula Vista Bayfront area would occur in compliance with the Chula Vista Bayfront Master Plan Settlement Agreement and must follow the guidelines outlined in the NRMP. Fireworks display events that would occur during the California least tern nesting season in the Chula Vista Bayfront area would be limited to the Fourth of July, in accordance with the Settlement Agreement and NRMP. In addition, as detailed in Section 4.6, *Hydrology and Water Quality*, **MM-WQ-1** and **MM-WQ-2** require implementation of the water quality-related conditions of the proposed ordinance, which require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best management practices, additional trash receptacles in landside viewing areas, a reduction in the amount of non-biodegradable fireworks components, and compliance with RWQCB's general permit and other required permits, including post-fireworks display event cleanup of debris and solid waste.

Table 4.7-5. Consistency with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan

Plan Text	Proposed Project Consistency
<p>Sweetwater Marsh Unit Goal 1. Protect, manage, enhance, and restore coastal wetland and upland habitats to benefit native fish, wildlife, and plant species within the Sweetwater Marsh Unit.</p>	<p>Consistent. The proposed new fireworks display events that would occur in proximity to the Sweetwater Marsh Unit include one display along the National City Bayfront and up to three displays along the Chula Vista Bayfront. The proposed new fireworks display events would be temporary in nature and occur on an infrequent basis. Consequently, no long-term impacts on habitat would occur with implementation of the proposed project. As discussed in Section 4.3, <i>Biological Resources</i>, the proposed new fireworks display events along the National City and Chula Vista Bayfronts may result in direct and indirect impacts on sensitive habitat within the Sweetwater Marsh Unit. However, the proposed ordinance includes several conditions of approval to reduce potential direct and indirect impacts on sensitive coastal wetland habitat to less-than-significant levels. Implementation of these conditions are required by MM-BIO-1 and MM-BIO-2. In addition, as detailed in Section 4.6, <i>Hydrology and Water Quality</i>, MM-WQ-1 and MM-WQ-2 require implementation of the water quality-related conditions of the proposed ordinance, which require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best management practices, additional trash receptacles in landside viewing areas, a reduction in the amount of non-biodegradable fireworks components, and compliance with RWQCB’s general permit and other required permits, including post-fireworks display event cleanup of debris and solid waste. This would ensure that quality habitat is maintained for native fish, wildlife, and plant species within the Sweetwater Marsh Unit.</p>
<p>Sweetwater Marsh Unit Goal 2. Support recovery and protection efforts for the federally and state listed threatened and endangered species and species of concern that occur within the Sweetwater Marsh Unit.</p>	<p>Consistent. The proposed new fireworks display events that would occur in proximity to the Sweetwater Marsh Unit include one display event along the National City Bayfront and up to three displays along the Chula Vista Bayfront. Proposed new fireworks display events along the Chula Vista Bayfront would occur outside of the California least tern nesting season (except for one display on the Fourth of July), in compliance with the Chula Vista Bayfront Master Plan Settlement Agreement, and would follow the guidelines outlined in the Chula Vista Bayfront Master Plan NRMP. In addition, the proposed project includes one new Fourth of July fireworks display event along the National City</p>

Plan Text	Proposed Project Consistency
<p>Sweetwater Marsh Unit Goal 3. Protect and restore the environmental health of the refuge’s coastal salt marsh and upland habitats by making contaminants remediation a priority for refuge lands, adjacent properties, and upstream developments.</p>	<p>Bayfront. For the proposed new fireworks display events that would occur during the breeding season, the proposed ordinance includes a number of noise- and light-reduction conditions of approval to minimize the temporary disturbance experienced by sensitive avian species. Implementation of these conditions are required by MM-NOI-1. As such, these proposed new fireworks display events would not jeopardize recovery and protection efforts for the federally and state listed threatened and endangered species and species of concern that occur within the Sweetwater Marsh Unit.</p>
<p>South San Diego Bay Unit Goal 1. Protect, manage, enhance, and restore open water, coastal wetlands, and native upland habitat to benefit the native fish, wildlife, and plant species supported within the</p>	<p>Consistent. The proposed new fireworks display events that would occur in proximity to the Sweetwater Marsh Unit include one display event along the National City Bayfront and up to three displays along the Chula Vista Bayfront. As discussed in Section 4.3, <i>Biological Resources</i>, new fireworks display events proposed along the National City and Chula Vista Bayfronts would have the potential to result in direct and indirect impacts on sensitive habitat within the Sweetwater Marsh Unit. However, the proposed ordinance includes several conditions of approval to reduce potential direct and indirect impacts on sensitive coastal salt marsh habitat to less-than-significant levels. Implementation of these conditions are required by MM-BIO-1 and MM-BIO-2. These conditions of approval would ensure that human trespass, increased boat traffic, and human-generated trash and debris during proposed new fireworks display events would not affect the environmental health of the coastal salt marsh and upland habitats. In addition, as detailed in Section 4.6, <i>Hydrology and Water Quality</i>, MM-WQ-1 and MM-WQ-2 require implementation of the water quality-related conditions of the proposed ordinance, which require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best management practices, additional trash receptacles in landside viewing areas, a reduction in the amount of non-biodegradable fireworks components, and compliance with RWQCB’s general permit and other required permits, including post-firework display event cleanup of debris and solid waste. These conditions would reduce the potential for contamination of coastal salt marsh habitat.</p> <p>Consistent. The proposed new fireworks display events that would occur in proximity to the South San Diego Bay Unit include up to three fireworks display events along the Chula Vista Bayfront. The proposed new fireworks display events would be</p>

Plan Text

South San Diego Bay Unit.

Proposed Project Consistency

temporary in nature and occur on an infrequent basis. Consequently, no long-term impacts on habitat would occur with implementation of the proposed project. As discussed in Section 4.3, *Biological Resources*, the new fireworks display events proposed along the Chula Vista Bayfront would have the potential to result in direct and indirect impacts on sensitive habitat within the South San Diego Bay Unit. However, the proposed ordinance includes several conditions of approval to reduce potential direct and indirect impacts on sensitive habitat to less-than-significant levels. Implementation of these conditions are required by **MM-BIO-1** and **MM-BIO-2**. In addition, as detailed in Section 4.6, *Hydrology and Water Quality*, **MM-WQ-1** and **MM-WQ-2** require implementation of the water quality-related conditions of the proposed ordinance, which require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best management practices, additional trash receptacles in landside viewing areas, a reduction in the amount of non-biodegradable fireworks components, and compliance with RWQCB's general permit and other required permits, including post-fireworks display event cleanup of debris and solid waste. This would ensure that quality habitat would be maintained for native fish, wildlife, and plant species within the South San Diego Bay Unit.

South San Diego Bay Unit Goal 2. Support recovery and protection efforts for the federally and state listed threatened and endangered species and species of concern that occur within the South San Diego Bay Unit.

Consistent. The proposed new fireworks display events that would occur in proximity to the South San Diego Bay Unit include up to three fireworks display events along the Chula Vista Bayfront. Proposed new fireworks display events along the Chula Vista Bayfront would occur outside of the California least tern nesting season (except for one display on the Fourth of July), in compliance with the Chula Vista Bayfront Master Plan Settlement Agreement, and would follow the guidelines outlined in the Chula Vista Bayfront Master Plan NRMP. For the one proposed new display that would occur during the breeding season in proximity to the South San Diego Bay Unit, the proposed ordinance includes a number of noise- and light-reduction conditions of approval to minimize the temporary disturbance experienced by sensitive avian species. Implementation of these conditions are required by **MM-NOI-1**. Furthermore, **MM-WQ-1** and **MM-WQ-2** require implementation of the water quality-related conditions of the proposed ordinance, which require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best

Plan Text	Proposed Project Consistency
<p>South San Diego Bay Unit Goal 3. Provide high-quality foraging, resting, and breeding habitat for colonial nesting seabirds, migratory shorebirds and waterfowl, and salt marsh-dependent species.</p>	<p>management practices, additional trash receptacles in landside viewing areas, a reduction in the amount of non-biodegradable fireworks components, and compliance with RWQCB's general permit and other required permits, including post-fireworks display event cleanup of debris and solid waste. As such, these proposed new fireworks display events would not jeopardize recovery and protection efforts for the federally and state listed threatened and endangered species and species of concern that occur within the South San Diego Bay Unit.</p>
	<p>Consistent. The proposed new fireworks display events that would occur in proximity to the South San Diego Bay Unit include up to three fireworks display events along the Chula Vista Bayfront. Proposed new fireworks display events along the Chula Vista Bayfront would occur in proximity to sensitive wetlands within the South San Diego Bay Unit that provide stopover habitat for migrating waterfowl and shorebirds and nesting habitat for sensitive avian species. The proposed new fireworks display events would be temporary in nature and occur on an infrequent basis. Consequently, no long-term impacts on sensitive wetlands would occur with implementation of the proposed project. As discussed in Section 4.3, <i>Biological Resources</i>, the proposed new fireworks display events are not anticipated to result in any long-term or permanent substantial adverse effects on avian species because temporary disturbance from noise and light would be short term and infrequent and would not result in direct mortality of birds, a decrease in productivity, or long-term changes in behavior (e.g., colony abandonment). Additionally, the proposed ordinance includes a number of noise- and light-reduction conditions of approval for fireworks display events that would occur during the breeding season, which would further reduce the temporary disturbance experienced by migrating avian species. Implementation of these conditions are required by MM-NOI-1. Furthermore, MM-WQ-1 and MM-WQ-2 require implementation of the water quality-related conditions of the proposed ordinance, which require the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, specific packaging materials, best management practices, additional trash receptacles in landside viewing areas, a reduction in the amount of non-biodegradable fireworks components, and compliance with RWQCB's general permit and other required permits, including post-fireworks display event cleanup of debris and solid waste. This would ensure that migrating wildlife species do not</p>

Plan Text	Proposed Project Consistency
	<p>mistakenly consume the waste. As such, it is not anticipated that fireworks-generated debris, light, and noise would alter the migratory patterns of any species or render nesting sites inhospitable. Consequently, the proposed project would not result in long-term alteration of migratory patterns or abandonment of nesting sites.</p>

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval to address issues such as air quality, biological resources, water quality, and traffic, among others, and improve the existing condition related to fireworks display events. Because the proposed ordinance would improve the existing condition in terms of the aforementioned resources, it would be consistent with applicable habitat conservation plans and natural community conservation plans, including the San Diego Bay INRMP, Chula Vista Bayfront Master Plan NRMP, and San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. Therefore, effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan. Impacts would be less than significant, and no mitigation measures are required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impact would occur.

4.8.1 Overview

This section describes the existing conditions and applicable laws and regulations governing project-related noise and vibration. The section also discusses the proposed project’s potential to increase noise and vibration in the project vicinity during the operation of fireworks display events.

Impacts related to noise were analyzed by ICF noise analysts and were considered significant if the proposed project would (1) generate or expose persons to noise levels in excess of established standards or (2) result in a substantial temporary or periodic increase in ambient noise levels. All other noise and vibration issues, including groundborne vibration, permanent increases in noise, and impacts related to public and private airport/airstrips, were analyzed in Section XII of the Initial Study/Environmental Checklist (Appendix A), which is incorporated here by this reference, and were determined to be less than significant. The analysis and conclusions regarding these impacts are included in Section 6.4, *Effects Not Found to Be Significant*, of Chapter 6. Table 4.8-1 summarizes the significant impacts and mitigation measures discussed in Section 4.8.5, *Project Impact Analysis*.

Table 4.8-1. Summary of Significant Noise and Vibration Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
<p>Impact-NOI-1: Substantial Periodic or Temporary Increase in Ambient Noise Levels of the Proposed New Fireworks Display Events</p>	<p>MM-NOI-1. Implementation of the Noise-Related Conditions of the Proposed Ordinance, which require limitations on barge locations and shell sizes and avoidance of salutes within the first quarter of a fireworks display.</p>	<p>Significant and Unavoidable</p>	<p>The proposed ordinance contains several conditions of approval intended to limit noise impacts on sensitive biological resources. These conditions would require the proposed new fireworks display events to either be located outside a 1-mile radius from sensitive habitats or to both limit maximum shell size to 8-inches and avoid the use of salutes within the first quarter of a fireworks display</p>

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
			event. These conditions of the ordinance would provide modest abatement (reduction) of the overall project noise levels. However, because loud noise (including noise levels intended to be significantly higher than ambient conditions) is considered an integral part of traditional fireworks display events, mitigation measures to fully eliminate significant noise impacts, such as silent fireworks, would substantially change the fundamental nature of the proposed project.

4.8.2 Noise Fundamentals and Terminology

Noise is commonly defined as unwanted sound. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is often defined as sound that is objectionable because it is disturbing or annoying.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receptor, and the propagation path between the two. The loudness of the noise source and the obstructions or atmospheric factors, which affect the propagation path to the receptor, determine the sound level and the characteristics of the noise perceived by the receptor.

The following sections provide an explanation of key concepts and acoustical terms used in the analysis of environmental and community noise.

4.8.2.1 Frequency, Amplitude, and Decibels

Continuous sound can be described by *frequency* (pitch) and *amplitude* (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of Hz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

The amplitude of pressure waves generated by a sound source determines the loudness of that source. The amplitude of a sound is typically described in terms of *sound pressure level*, which refers to the root-mean-square pressure of a sound wave and can be measured in units called microPascals (μPa). One μPa is approximately one hundred-billionth (0.0000000001) of normal atmospheric pressure. Sound pressure levels for different kinds of noise environments can range from less than 100 to over 100,000,000 μPa . Because of this large range of values, sound is rarely expressed in terms of μPa . Instead, a logarithmic scale is used to describe the sound pressure level (also referred to simply as the sound level) in terms of decibels, abbreviated dB. Specifically, the decibel describes the ratio of the actual sound pressure to a reference pressure and is calculated as follows.

$$SPL = 20 \times \log_{10} \left(\frac{X}{20 \mu\text{Pa}} \right)$$

Where X is the actual sound pressure and 20 μPa is the standard reference pressure level for acoustical measurements in air.

The threshold of hearing for young people is about 0 dB, which corresponds to 20 μPa .

Decibel Addition

Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one excavator produces a sound pressure level of 80 dB, two excavators would not produce 160 dB. Rather, they would combine to produce 83 dB. The cumulative sound level of any number of sources, such as excavators, can be determined using decibel addition. The same decibel addition is used for A-weighted decibels described below.

4.8.2.2 Perception of Noise and A-Weighting

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the sound pressure level in that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels in

various frequency bands are adjusted (or “weighted”), depending on human sensitivity to those frequencies. The resulting sound pressure level is expressed in A-weighted decibels, abbreviated dBA. When people make judgments regarding the relative loudness or annoyance of a sound, their judgments correlate well with the A-weighted sound levels of those sounds. Table 4.8-2 describes typical A-weighted sound levels for various noise sources.

Table 4.8-2. Typical Noise Levels in the Environment

Common Outdoor Noise Source	Sound Level (dBA)	Common Indoor Noise Source
	— 110 —	Rock band
Jet flying at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher in next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: California Department of Transportation 2013.

Human Response to Noise

Noise-sensitive receptors (also called “receivers”) are locations where people reside or where the presence of unwanted sound may adversely affect the use of the land. Noise-sensitive receptors typically include residences, hospitals, schools, guest lodging, libraries, and certain types of passive recreational uses.

The effects of noise on people can be listed in three general categories.

- Subjective effects of annoyance, nuisance, or dissatisfaction.

- Interference with activities such as speech, sleep, learning, or working.
- Physiological effects such as startling and hearing loss.

In most cases, effects from sounds typically found in the natural environment (compared to an industrial or an occupational setting) would be limited to the first two categories: creating an annoyance or interfering with activities. No completely satisfactory method exists to measure the subjective effects of sound or the corresponding reactions of annoyance and dissatisfaction. This lack of a common standard arises primarily from the wide variation in individual thresholds of annoyance and habituation to sound. Therefore, an important way of determining a person's subjective reaction to a new sound is by comparing it to the existing baseline or "ambient" environment to which that person has adapted. In general, the more the level or tonal (frequency) variations of a sound exceed the previously existing ambient sound level or tonal quality, the less acceptable the new sound will be, as judged by the exposed individual.

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dBA. In the normal environment, the healthy human ear can detect changes of about 2 dBA; however, it is widely accepted that changes of 3 dBA in the normal environment are considered just noticeable to most people. A change of 5 dBA is readily perceptible, and a change of 10 dBA is perceived as being twice as loud. Accordingly, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) resulting in a 3-dBA increase in sound would generally be barely detectable.

Equipment and vehicle operation during nighttime hours can potentially result in noise events that disturb the sleep of people living in nearby residential areas. Interior noise levels between 50 and 55 dBA maximum sound level (L_{max}) during nighttime hours (10 p.m. to 7 a.m.) were found to result in sleep disturbance and annoyance (Nelson 1987).

4.8.2.3 Noise Descriptors

Because sound levels can vary markedly over a short period of time, various descriptors or noise "metrics" have been developed to quantify environmental and community noise. These metrics generally describe either the average character of the noise or the statistical behavior of the variations in the noise level. The most common of these metrics are described below:

Equivalent Sound Level (L_{eq})

The equivalent sound level (L_{eq}) is the most common metric used to describe short-term average noise levels. Many noise sources produce levels that fluctuate over time; examples include mechanical equipment that cycles on and off, or construction work, which can vary sporadically. The L_{eq} describes the average acoustical energy content of noise for an identified period of time, commonly 1 hour. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustical energy over the duration of the exposure. For many noise sources, the L_{eq} will vary depending on the time of day—a prime example is traffic noise, which rises and falls depending on the amount of traffic on a given street or freeway.

Maximum Sound Level (L_{max}) and Minimum Sound Level (L_{min})

L_{max} and L_{min} refer to the maximum and minimum sound levels, respectively, that occur during the noise measurement period. More specifically, they describe the root-mean-square sound levels that correspond to the loudest and quietest 1-second intervals that occur during the measurement.

Community Noise Equivalent Level (CNEL)

It is recognized that a given level of noise may be more or less tolerable depending on the duration of the exposure experienced by an individual, as well as the time of day during which the noise occurs. The community noise equivalent level (CNEL) is a measure of the cumulative 24-hour noise exposure that considers not only the variation of the A-weighted noise level but also the duration and the time of day of the disturbance. The CNEL is derived from the 24 A-weighted 1-hour L_{eq} that occur in a day, with “penalties” applied to the L_{eq} occurring during the evening hours (7 p.m. to 10 p.m.) and nighttime hours (10 p.m. to 7 a.m.) to account for increased noise sensitivity during these hours. Specifically, the CNEL is calculated by adding 5 dBA to the evening L_{eq} , adding 10 dBA to the nighttime L_{eq} , and then taking the average value for all 24 hours.

Day-Night Sound Level (L_{dn})

Much like CNEL above, day-night sound level (L_{dn}) is also a measure of the cumulative 24-hour noise exposure that considers not only the variation of the A-weighted noise level but also the duration and the time of day of the disturbance. The L_{dn} is derived in exactly the same way as CNEL, except that no “penalty” is applied to the evening hours of 7 p.m. to 10 p.m. Specifically, the L_{dn} is calculated from the 24 A-weighted 1-hour L_{eq} that occur in a day by adding 10 dBA to the nighttime (10 p.m. to 7 a.m.) L_{eq} and then taking the average value for all 24 hours.

It is noted that various federal, state, and local agencies have adopted CNEL or L_{dn} as the measure of community noise. While not identical, CNEL and L_{dn} are normally within 1 dBA of each other when measured in typical community environments, and many noise standards/regulations use the two interchangeably.

4.8.2.4 Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends on the following important factors.

Geometric Spreading

Sound from a single source (i.e., a *point source*) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. Highway noise is not a single stationary point source of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a *line source*) rather than from a point. This results in cylindrical spreading rather than the spherical spreading resulting from a point source. The change in sound level (i.e., *attenuation*) from a line source is 3 dBA per doubling of distance.

Ground Absorption

Usually the noise path between the source and the observer is very close to the ground. The excess noise attenuation from ground absorption occurs due to acoustic energy losses on sound wave reflection. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 200 feet, prediction results based on this scheme are sufficiently accurate. For acoustically “hard” sites (i.e., sites with a reflective surface, such as a parking lot or a smooth body of water, between the source and the receptor), no excess ground attenuation is assumed because the sound wave is reflected without energy losses. For acoustically absorptive or “soft” sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source.

Atmospheric Effects

Research by the California Department of Transportation (Caltrans) and others has shown that atmospheric conditions can have a major effect on noise levels. Wind has been shown to be the single most important meteorological factor within approximately 500 feet, whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation, with cooler air near the surface, where the sound source tends to be and the warmer air above which acts as a cap, causing a reflection of ground level-generated sound).

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receptor, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receptor with the specific purpose of reducing noise. A barrier that breaks the line of sight between a source and a receptor will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

4.8.3 Existing Conditions

The area surrounding the various fireworks display event sites considered in the analysis is quite large, essentially incorporating the entire San Diego Bay, Imperial Beach Oceanfront, and surrounding land uses. These land uses vary considerably in nature and development density, and include open space and parks, single-family residential neighborhoods, downtown commercial and multi-family residential uses, and airport and industrial uses (including the District’s maritime and maritime industrial uses). As a result, the primary noise sources and associated ambient noise levels vary substantially throughout

the study area. Overall, the primary ambient noise sources affecting the study area are aircraft (from San Diego International Airport, Naval Air Station North Island, and Naval Outlying Landing Field Imperial Beach), traffic on streets and freeways, railroad operations, and industrial operations (including District maritime, maritime industrial, and shipping activities); the relative importance of each noise source varies from location to location throughout the project vicinity.

The noise environment also includes periodic fireworks display events. Many of these are displays that require a discretionary action by the District or that are operated by the District's tenants or member cities, such as the annual Big Bay Boom, the Fourth of July Imperial Beach Fireworks show, Fireworks Show Over Glorietta Bay, the San Diego Symphony Summer Pops concert series, the *U.S.S. Midway* displays, NASSCO ship repair facility displays, and Our Lady of the Rosary Church annual procession. Other fireworks displays in the project vicinity include those held by cities or private organizations outside of the District's jurisdiction and not operated by a District tenant, such as the Fourth of July fireworks display event at Kimball Park in National City (landside) and nightly fireworks displays held throughout the summer at SeaWorld. Refer to Tables 2-1 and 2-2 in Chapter 2, *Environmental Setting*, of this Draft EIR for additional details of existing fireworks display events.

4.8.3.1 Noise Monitoring

In order to quantify existing noise conditions, long-term (LT) noise monitoring was conducted at six locations in the project vicinity. All measurements were conducted from Sunday, July 3, to Wednesday, July 6, 2016. These measurements were conducted to capture both ambient noise levels (on July 3, 5, and 6) and fireworks noise levels (on the Fourth of July). The six noise monitoring locations, designated LT1 through LT6, are indicated on Figure 4.8-1 and described in more detail below. For accessibility, safety, and security reasons, the monitoring was primarily conducted at facilities owned, operated, or controlled by the District or its member cities. At each measurement location, average (L_{eq}) and maximum (L_{max}) noise levels were recorded every minute. Subsequent analysis of these data was then performed to calculate the hourly L_{eq} and L_{max} . Additional details of the noise monitoring methodology and results are provided in Section 4.8.5.1, *Methodology*, and Appendix H. The measured ambient noise levels are summarized in Table 4.8-3 in terms of the range of hourly L_{eq} and L_{max} values observed within the daytime (7 a.m. to 7 p.m.), evening (7 p.m. to 10 p.m.), and nighttime (10 p.m. to 7 a.m.) periods each day. In addition to these ranges, the hourly values measured between 9 p.m. and 10 p.m. are called out in the table because they are used as the basis for comparison of fireworks noise levels.

LT1: San Diego Harbor Police Department, Shelter Island Station

Equipment for monitoring location LT1 was mounted on a tripod, approximately 5 feet above the ground within a chain-link fenced storage area on the east side of the station building. This location had unobstructed views of San Diego Bay to the east and south. LT1 is representative of land uses on Shelter Island, as well as the closest homes on the west side of the Bay. The closest fireworks display event to this location was the Big Bay Boom.

LT2: B Street Pier

Equipment for monitoring location LT2 was mounted on a tripod, approximately 5 feet above the ground on the west end of the B Street Pier with an unobstructed view of the Bay to the west. LT2 is representative of land uses adjacent to the shoreline along the Embarcadero. The closest fireworks display event to this location was the Big Bay Boom.



Figure 4.8-1
Noise Monitoring Locations
San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR
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Table 4.8-3. Long-term Noise Measurements

Site #	Location	Date	Time Period ¹	Range of Hourly Values, dBA	
				L _{eq}	L _{max}
LT-1	San Diego Harbor Police Department Shelter Island Station, 1401 Shelter Island Drive, San Diego	7/3/16	Day	51.8–55.3	69.4–89.1
			Evening	53.1–57.7	76.3–99.9
			9–10 p.m.	57.7	99.9
			Nighttime	48.5–51.6	69.1–81.5
		7/5/16	Day	54.1–57.6	73.5–85
			Evening	46.4–57.4	70.2–80.5
			9–10 p.m.	46.4	70.2
			Nighttime	34.8–55.6	51.6–80.7
		7/6/16	Day	51.6–58.1	71.8–88.1
			Evening ²	Not Measured	Not Measured
			Nighttime ³	51.0–54.0	58.6–83.6
LT-2	B Street Pier, 1140 North Harbor Drive, San Diego	7/3/16	Day	57.7–65.8	73.5–86.8
			Evening	55.2–57	72.7–77.3
			9–10 p.m.	56.1	77.3
			Nighttime	51.5–57.4	73–77.6
		7/5/16	Day	55.8–60.2	71.5–80.7
			Evening	60.5–61.5	73.7–82.7
			9–10 p.m.	61.5	82.7
			Nighttime	45.6–59.2	51.8–77.7
		7/6/16	Day	56.6–64.2	76.8–90.2
			Evening ²	Not Measured	Not Measured
			Nighttime ³	45.6–58.5	55–76.3
LT-3	Coronado Municipal Golf Course, 2000 Visalia Row, Coronado	7/3/16	Day	53.4–54.8	67.3–79.6
			Evening	53.6–59.6	75.9–82.6
			9–10 p.m.	59.6	78.6
			Nighttime	58.5–59.5	69.4–81.1
		7/5/16	Day	50.4–60.9	67.3–92
			Evening	49.9–55.9	67.4–79.3
			9–10 p.m.	49.9	69.9
			Nighttime	42.1–52.1	50.8–79.8
		7/6/16	Day	49.2–55.9	70.5–74.6
			Evening ²	Not Measured	Not Measured
			Nighttime ³	42.6–51.4	48.8–76

Site #	Location	Date	Time Period ¹	Range of Hourly Values, dBA			
				L _{eq}	L _{max}		
LT-4	Residential neighborhood, in front of 130 East 31 st Street, National City	7/3/16	Day	56.7–58.2	70.8–79.2		
			Evening	55.7–57.4	72–75.9		
			9–10 p.m.	55.7	75.9		
			Nighttime	51.3–54.2	71.9–77.1		
		7/5/16	Day	57.4–63.1	73.4–92.4		
			Evening	57.3–60.1	74.7–84.7		
			9–10 p.m.	57.3	78.7		
		7/6/16	Day	56.6–60.1	75.3–90.7		
			Evening ²	Not Measured	Not Measured		
			Nighttime ³	48.3–57.3	60.4–75.6		
		LT-5	Chula Vista Wildlife Reserve, Chula Vista	7/3/16	Day	44.1–49	60.9–80.1
					Evening	44.4–45.6	58.2–64.7
9–10 p.m.	44.4				61.0		
Nighttime	42.5–45.6				60–66.6		
7/5/16	Day			43.8–54.9	59.1–83		
	Evening			44.3–57.5	56.3–79.6		
	9–10 p.m.			44.3	56.3		
7/6/16	Day			39.1–69.1	64.6–93.3		
	Evening ²			Not Measured	Not Measured		
	Nighttime ³			32.5–47.3	49.2–78.6		
LT-6	Imperial Beach Lifeguard Tower, Dempsey Holder Safety Center, 950 Ocean Lane, Imperial Beach			7/3/16	Day	66.4–68.6	76.6–84.3
					Evening	67.5–68.1	79.1–85.4
		9–10 p.m.	67.7		85.4		
		Nighttime	66.4–67		74.4–76.8		
		7/5/16	Day	64.9–69.1	76.5–100.6		
			Evening	66.1–66.6	74.1–78.9		
			9–10 p.m.	66.1	74.1		
		7/6/16	Day	63.4–66.2	71.4–95.2		
			Evening ²	Not Measured	Not Measured		
			Nighttime ³	61.9–66.1	66.7–76.7		

¹ Daytime hours = 7 a.m. to 7 p.m.; evening hours = 7 p.m. to 10 p.m.; nighttime hours = 10 p.m. to 7 a.m. Hourly monitoring at all six sites started between 10 a.m. and 3 p.m. on 7/3/16 and ended between 10 a.m. and 12 p.m. on 7/6/16. Exact monitoring times are provided in Appendix H.

² Data was not gathered during the evening hours (7 p.m. to 10 p.m.) of 7/6/16 because all noise measurements were stopped between 10 a.m. and 12 p.m.

³ Nighttime data on 7/6/16 only refers to data gathered between midnight and 7 a.m. Because noise measurements were subsequently stopped during daytime hours, no additional nighttime data was gathered.

LT3: Coronado Municipal Golf Course

Equipment for monitoring location LT3 was mounted on a tree, approximately 9 feet above the ground, facing south toward Glorietta Bay with unobstructed views of San Diego Bay and Glorietta Bay to the east and south. This location was close to the fence on the side of the golf course's driving range. LT3 is representative of land uses in Coronado around Glorietta Bay. The closest fireworks display event to this location was the Fireworks Show Over Glorietta Bay.

LT4: East 31st Street, National City

Equipment for monitoring location LT4 was mounted on a power pole, approximately 9 feet above the ground, facing west toward the Bay. This location was on the south side of East 31st Street, within a residential neighborhood approximately 0.5 mile east of Interstate (I-) 5 and 1.4 miles east of the Bay. Various intervening structures obscured the view of the Bay. LT4 is representative of inland uses within National City and was more than 4 miles from any of the fireworks display events sites. The closest fireworks display event to this location was actually not within the District's jurisdiction; rather it was an unrelated landside fireworks display event at Kimball Park in National City, approximately 5,500 feet north of LT4.

LT5: Chula Vista Wildlife Reserve, Chula Vista

Equipment for monitoring location LT5 was mounted on a tripod, approximately 5 feet above the ground on the roadway leading to the Chula Vista Wildlife Reserve. Both the road and the reserve are closed to the public. This location had unobstructed views of the Bay to the north, west, and south. LT5 is representative of land uses adjacent to the shoreline in Chula Vista and was approximately 3 miles northeast of the Fourth of July Imperial Beach Fireworks Show display event site.

LT6: Imperial Beach Lifeguard Tower

Equipment for monitoring location LT6 was mounted on a tripod, approximately 5 feet above the exterior deck of the lifeguard tower at the Dempsey Holder Safety Center in Imperial Beach. The deck was on the third floor of the tower with an unobstructed view of the ocean and the Imperial Beach Pier to the west. LT6 is representative of land uses adjacent to the shoreline in Imperial Beach. The closest fireworks display event to this location was the Fourth of July Imperial Beach Fireworks Show.

At each measurement location, L_{eq} and L_{max} noise levels were recorded every minute. This allowed for the noise levels during fireworks display events to be isolated and analyzed, as well as for longer-term noise levels (such as 1-hour L_{eq}) to be calculated. In order to estimate the increases in noise levels due to the fireworks display events, the noise levels measured during the fireworks on Monday, the Fourth of July were compared to the noise levels during the same time period on Sunday, July 3 and Tuesday, July 5.

Long-term ambient noise measurements were conducted using various Type 2 integrating sound level meters (Rion models NL-21 and NL-22, Larson Davis model LxT2, and SoftdB model Piccolo/SLM-P3). Each sound level meter was field-calibrated for accuracy using a Larson Davis model CAL200 acoustical calibrator prior to the measurements.

4.8.4 Applicable Laws and Regulations

4.8.4.1 Federal

Noise Control Act of 1972

The Federal Noise Control Act of 1972 (Public Law 92 574) established a requirement that all federal agencies administer their programs to promote an environment free of noise that would jeopardize public health or welfare. The U.S. Environmental Protection Agency was given responsibility for the following.

- Providing information to the public regarding identifiable effects of noise on public health and welfare.
- Publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety.
- Coordinating federal research and activities related to noise control.
- Establishing federal noise emission standards for selected products distributed in interstate commerce.

4.8.4.2 State

California requires each local government entity to perform noise studies and implement a noise element as part of its general plan. State land use guidelines for evaluating the compatibility of various land uses as a function of community noise exposure are presented in Section 4.8.4.3, *Local*, below.

Title 24, California Code of Regulations

Title 24, Part 2 of the California Code of Regulations (California Building Code) governs the interior environment of new buildings. Section 1207 provides standards for noise affecting “dwelling units and sleeping units.” The code states, “Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either L_{dn} or CNEL, consistent with the noise element of the local general plan.”

4.8.4.3 Local

Port Master Plan

The proposed project is within and/or adjacent to the jurisdiction of the District. Key noise-related policies in the Port Master Plan are described below.

Planning Goals

Section II of the Port Master Plan sets forth goals and related policies for development and operation of land within the District’s jurisdiction.

Goal VIII. The Port District will enhance and maintain the bay and tidelands as an attractive physical and biological entity.

Establish guidelines and standards facilitating the retention and development of an aesthetically pleasing tideland environment free of noxious odors, excessive noise, and hazards to the health and welfare of the people of California.

City of Coronado Municipal Code

Chapter 41.10 of the City of Coronado Municipal Code makes it unlawful for any person to cause noise by any means to the extent that the 1-hour L_{eq} exceeds the applicable limit given in Table 4.8-4, at any location in the City of Coronado on or beyond the boundaries of the property on which the noise is produced. However, these noise limits do not apply to permitted public fireworks displays, as described below (per Chapter 20.16 of the Municipal Code).

Table 4.8-4. City of Coronado Noise Limits

Land Use Zone	Time of Day	1-Hour L_{eq} (dBA)
All R-1A; R-1B (Single-Family Residential)	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
All R-3; R-4; R-PCD; and R-5 (Multi-Family Residential and Planned Community Development Residential)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
Commercial (C); Commercial Recreation (C-R); Hotel/Motel (HM); Civic Use (C-U); Open Space (OS); and Parking Overlay (P-1)	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	50

Source: City of Coronado Municipal Code, Chapter 41.10.

Note: The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

Chapter 20.16 of the City of Coronado Municipal Code makes it unlawful for any person to commence, conduct, manage, participate in, or sponsor a public display of fireworks without an operations permit. Other regulations of Chapter 20.16 include the following.

- No fireworks display shall be permitted after 10:00 p.m.
- No concussion type, noncolor shells, for example, “salutes” or “report,” greater than three inches shall be used, except those shells which may be larger but do not have decibel readings above 137 decibels.
- No permittee shall conduct more than three public displays of fireworks during any 30-day period.
- The permittee shall provide notice of the time and date of the public display by publishing a notice using a one-eighth page advertisement in a newspaper of general circulation within the city. Notice shall be published no less than five days before the event.

- The City Manager may vary the regulations of this chapter for events which are sponsored by the City or are conducted for the benefit of the general public.

Chapter 20.16 also states that the “regulations of this chapter shall apply to public display of fireworks rather than other noise regulations contained in this code,” indicating that properly permitted fireworks display events are exempt from Chapter 41.10, described above.

City of Chula Vista Municipal Code

Chapter 19.68 of the City of Chula Vista Municipal Code states that “no person shall operate, or cause to be operated, any source of sound at any location within the city or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person” that causes the noise level to exceed the environmental noise level limits given in Table 4.8-5.

Table 4.8-5. City of Chula Vista Noise Limits

Receiving Land Use Category	Time of Day	1-Hour L_{eq} (dBA)
All Residential (except multiple dwelling)	7 a.m. to 10 p.m. weekdays	55
	8 a.m. to 10 p.m. weekends	
	10 p.m. to 7 a.m. weekdays	45
	10 a.m. to 8 a.m. weekdays	
Multiple Dwelling Residential	7 a.m. to 10 p.m. weekdays	60
	8 a.m. to 10 p.m. weekends	
	10 p.m. to 7 a.m. weekdays	50
	10 a.m. to 8 a.m. weekdays	
Commercial	7 a.m. to 10 p.m. weekdays	65
	8 a.m. to 10 p.m. weekends	
	10 p.m. to 7 a.m. weekdays	60
	10 a.m. to 8 a.m. weekdays	
Light Industry – IR and I-L zone	All day	70
Heavy Industry – I zone	All day	80

Source: City of Chula Vista Municipal Code.

Notes: In the event the alleged offensive noise, as judged by the enforcement officer, contains a steady, audible sound such as a whine, screech, or hum, or contains a repetitive impulsive noise such as hammering or riveting, the standard limits shall be reduced by 5 dB.

If the measured ambient level exceeds the standard limits, the allowable noise exposure standard shall be the ambient noise level.

However, fireworks displays would be considered special events and would be exempt from the noise standards under Section 19.68.060, *Special provision (exemptions)*, of the Municipal Code, which states “The provisions of this title shall not apply to occasional outdoor gatherings, public dances, shows, and sporting and entertainment events.”

Chapter 2.66 of the City of Chula Vista Municipal Code prohibits the discharge any fireworks without the written consent of the City.

City of Imperial Beach Municipal Code

Chapter 9.32 of the City of Imperial Beach Municipal Code addresses noise qualitatively, but does not provide quantitative standards. The code makes it unlawful for any person, firm, association, or corporation to disturb the peace, quiet, and comfort of the community or any portion thereof or neighborhood therein by creating or causing to be created any unreasonably loud or disturbing unnecessary noises in the city. However, fireworks displays permitted by the City are exempted from the noise ordinance pursuant to Section 9.32.060 of the municipal code, which exempts properly permitted civic functions and other activities.

National City Municipal Code

Chapter 12.06 of the National City Municipal Code states that “no person shall operate or cause to be operated any source of sound at any location within the city, or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person,” that causes the noise level to exceed the environmental noise level limits given in Table 4.8-6 at any point on or beyond the boundaries of the property on which the sound is produced.

Table 4.8-6. National City Noise Limits

Receiving Land Use Category	Time of Day	1-Hour L_{eq} (dBA)
All residential (less than 9 dwelling units)	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	45
Multi-unit residential (9 dwelling units or more)	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	50
Commercial	7 a.m. to 10 p.m.	65
	10 p.m. to 7 a.m.	60
Light Industry (Industry east of I-5)	All day	70
Heavy Industry (Industry west of I-5)	All day	80

Source: National City Municipal Code.

Notes: In the event the alleged offensive noise contains a steady, audible sound such as a whine, screech, or hum, or contains a repetitive impulsive noise such as hammering or riveting, or contains music or speech, the standard limits shall be reduced by 5 dBA.

If the measured ambient level exceeds the standard limits, the allowable noise level standard shall be the ambient noise level.

However, fireworks displays within the city are required to have appropriate permits and would follow the appropriate process to obtain an exception to the noise standards as described in Section 12.16.020, *Special permit exceptions for environmental noise*, of the Municipal Code.

The requirement for proper permitting of fireworks is further addressed in Chapter 10.16 of the National City Municipal Code, which prohibits the use, possession, or storage of fireworks within the city except for permitted fireworks exhibitions. For permitted fireworks displays, the code requires that “[a]ll such display or displays of fireworks shall be of such character and so located, discharged or fired, as, in the opinion of the city council shall not be hazardous to surrounding property or endanger any person or persons.”

City of San Diego Municipal Code 59.5.0401 (Noise Ordinance)

The Noise Ordinance makes it unlawful for any person to cause noise by any means to the extent that the 1-hour L_{eq} exceeds the applicable limit given in Table 4.8-7 at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. However, the code also exempts permitted fireworks displays from these standards, stating “[t]his section does not apply to fireworks displays authorized by permit from the Fire Department.”

Table 4.8-7. City of San Diego Noise Limits

Land Use	Time of Day	1-Hour L_{eq} (dBA)
Single Family Residential	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
Multi-Family Residential (up to a maximum density of 1/2,000)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
All Other Residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 7 a.m.	60
Industrial or Agricultural	Any time	75

Source: City of San Diego Municipal Code.

Note: The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

4.8.5 Project Impact Analysis

4.8.5.1 Methodology

In order to quantify noise levels from the proposed new fireworks display events, noise monitoring was conducted at six locations (LT1 through LT6) in the project vicinity between Sunday, July 3, and Wednesday, July 6, 2016, as described in Section 4.8.3.1, *Noise Monitoring*, and shown in Figure 4.8-1. These measurements were obtained to quantify noise levels from fireworks display events and provide reference data to be used in estimating potential future noise levels and impacts associated with the proposed project. The following Fourth of July fireworks display events were measured.

1. The Big Bay Boom: A fireworks display event using four launch barges in San Diego Bay.
2. Fourth of July Imperial Beach Fireworks Show: A fireworks display event with fireworks launched from the middle portion of Imperial Beach Pier.
3. The Fireworks Show Over Glorietta Bay: A fireworks display event using one launch barge adjacent to Coronado in Glorietta Bay.

Measurement locations LT1, LT2, LT3, and LT6 were chosen to be generally representative of land uses on or close to the waterfront that would be exposed to the highest levels of noise as a result of the fireworks display events. LT4 and LT5 were chosen to investigate noise levels at other cities around San Diego Bay that are not immediately adjacent to the Fourth of July fireworks displays. LT1 and LT2 were the closest measurements to the Big Bay Boom, measurement LT3 was closest to the Fireworks Show Over Glorietta Bay, and LT6 was closest to the Fourth of July Imperial Beach Fireworks Show. LT4 and LT5 were between 3 and 7 miles from the various fireworks display events. Photos of each measurement location are provided in Appendix H.

A noise model, provided in Appendix H, was developed using the measured noise levels and geographical coordinates of the fireworks launch locations and receivers to analyze the noise level contributions of each launch location and to estimate the associated sound power. These sound power levels were then used to estimate noise contour distances from each launch location as well as noise levels from other existing and proposed fireworks display events.

4.8.5.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and the City of San Diego's CEQA Significance Determination Thresholds and provide the basis for determining significance of impacts associated with noise and vibration resulting from the proposed project. The determination of whether a noise impact would be significant is based on the applicable noise thresholds and the professional judgment of the District as Lead Agency supported by the recommendations of qualified personnel at ICF and based wholly on the substantial evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following.

1. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.
2. Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. This impact would occur if the 1-hour L_{eq} generated by a fireworks display event would exceed the ambient 1-hour L_{eq} by 10 dBA or more at any noise-sensitive receptor.
5. Expose people residing or working in the project area within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, to excessive noise levels.
6. Expose people residing or working in the project area within the vicinity of a private airstrip to excessive noise levels.

The analysis of whether the proposed project would have a significant impact associated with noise and vibration under Thresholds 2, 3, 5, and 6 is provided in Section XII of the Initial Study/Environmental Checklist (Appendix A), which determined that the project would not result in significant impacts related to groundborne vibration, permanent increases in noise, and public and

private airport/airstrips. The analysis and conclusions in Section XII of the Initial Study/Environmental Checklist are incorporated by reference in this section of the Draft EIR and are summarized in Section 6.4, *Effects Not Found to Be Significant*, of Chapter 6. Therefore, only Thresholds 1 and 4 are discussed in the impact analysis that follows.

4.8.5.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not expose persons to or generate noise levels in excess of standards established in the applicable city's municipal code.

Impact Discussion

Proposed New Fireworks Display Events

Fireworks Display Events

It is noted that each of the five cities considered within the project study area have procedures in place to issue permits for fireworks display events and to exempt such events from the noise limits prescribed in their respective municipal codes. The cities also do not seek to, nor would they have jurisdiction to, impose their typical noise limits on fireworks display events occurring within neighboring cities. Although the new fireworks display events proposed at the National City and Chula Vista Bayfronts as part of the project would temporarily generate high noise levels at nearby sensitive receptors (estimated noise levels are analyzed under Threshold 4, below), the proposed ordinance would require all fireworks display events to obtain all required permits and to comply with local regulations. Accordingly, all of the displays allowed under the proposed project would be appropriately permitted and exempted from the noise limits of the applicable Municipal Code noise standards of the affected cities. As such, impacts would be less than significant for all proposed fireworks display events throughout the study area.

Traffic

The Transportation Assessment (Appendix J) provides traffic data and analysis from Fourth of July and non-Fourth of July fireworks display events at a range of locations. In order to evaluate the potential traffic noise impacts associated with the Fourth of July fireworks display events proposed as part of the project, it was assumed that traffic data for the Fourth of July event at the Imperial Beach Oceanfront would provide the most representative example. This was based on the general similarities between the Imperial Beach fireworks display event and the proposed new fireworks display events (i.e., single launch location, distinct to an individual city, relatively large separation from the launch location to the nearest related display, same size of display on Fourth of July). The Transportation Assessment indicates increases in vehicular volumes of up to 37 percent on studied roadway segments due to the Fourth of July fireworks display event.

In order to evaluate the potential traffic noise impacts associated with the non-Fourth of July fireworks display events proposed as part of the project, it was assumed that traffic data for the End of WWII 70th Anniversary event, which was the sample non-Fourth of July display studied in the Transportation Assessment, would provide the most representative example. This was based on the smaller overall size of the End of WWII 70th Anniversary event when compared to the sample Fourth

of July fireworks display event. The Transportation Assessment indicates increases in vehicular volumes of 18 to 28 percent on studied roadway segments within the City of San Diego during this event.

All else being equal, traffic volumes would have to double (i.e., increase by 100 percent) to cause a barely detectable noise increase of 3 dB. Therefore, with traffic volume increases of up to 37 percent during Fourth of July and up to 28 percent during other events, no substantial change to traffic noise levels is predicted to occur as a result of the proposed new fireworks display events, and the potential impact would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern the continuation of fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance does not include any conditions pertaining to noise level in excess of standards established in the applicable city's municipal code and, therefore, would not result in any change to the existing condition. Under the proposed ordinance, fireworks display events would continue to be required to comply with local noise regulations and to obtain special event or fireworks display permits from the affected city. These permits exempt fireworks display events from local noise standards. Therefore, the effect of the proposed ordinance on existing fireworks display events would not expose persons to or generate noise levels in excess of standards established in the applicable city's municipal code, and no significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

Implementation of the proposed new fireworks display events would not expose persons to or generate noise levels in excess of standards established in the applicable city's municipal code because permitted fireworks display events are exempted from the noise level limits of the National City and Chula Vista Municipal Codes, as well as the surrounding member cities. Therefore, impacts would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

Under the proposed ordinance, existing fireworks display events would continue to be required to comply with local noise regulations and to obtain special event or fireworks display permits from the affected city. These permits exempt fireworks display events from local noise standards. Therefore, the effect of the proposed ordinance on existing fireworks display events would not expose persons to or generate noise levels in excess of standards established in the applicable city's municipal code, and no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effect of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation**Proposed New Fireworks Display Events**

Impacts would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 4: Implementation of the proposed project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project.

Impact Discussion

For the purposes of quantifying noise levels for the proposed new fireworks display events, measured data from existing fireworks display events were analyzed and extrapolated. Noise levels were measured at six locations during the 2016 Fourth of July fireworks display events as described in Section 4.8.5.1, *Methodology*. These events included the Big Bay Boom, Fourth of July Imperial Beach Fireworks Show, and the Fireworks Show Over Glorietta Bay. Analyzing the minute-by-minute data provided in Appendix H, it was possible to calculate the L_{eq} and L_{max} noise levels at each location during the fireworks display events. Table 4.8-8 summarizes the noise levels measured during the fireworks display events, along with the duration of the fireworks display event measured at each location. Using these data, it was also possible to calculate the equivalent 1-hour L_{eq} generated by the fireworks display events at each location.

The measured fireworks display event noise levels at LT4 in National City were substantially higher than would be expected based on the distances to the various fireworks display events within San Diego Bay and Imperial Beach. Research was conducted to determine what other noise sources in the area may have contributed to the measured noise levels, and it was determined that a simultaneous landside fireworks display took place on the Fourth of July at Kimball Park in National City, approximately 5,500 feet north of LT4. The data from LT4 that was substantially affected by the Kimball Park display is noted in Table 4.8-8.

Because the primary fireworks display events of interest for this project are those occurring in San Diego Bay and at Imperial Beach Oceanfront, it is informative to consider the noise levels that would occur at each measurement location as a result of only those fireworks displays. Therefore, the fireworks noise model in Appendix H was used to estimate the “corrected” noise levels for the combined Fourth of July fireworks noise levels excluding noise from the Kimball Park display. The results of this analysis are reported in Table 4.8-9. The results indicate that Fourth of July fireworks noise levels would be much lower at LT4 without the event at Kimball Park, and slightly lower at LT5. All of the other measurement locations are far from Kimball Park (3.5 miles or farther) and very close to San Diego Bay or the Imperial Beach Oceanfront fireworks display events; therefore, the effects of the Kimball Park display are negligible at LT1, LT2, LT3, and LT6.

Table 4.8-8. Measured Fourth of July Fireworks Noise Levels From All Sources

Noise Monitoring Location	Fireworks Display Events			
	Event L_{eq}	Event L_{max}	Duration	1-Hour L_{eq}^a
LT1 San Diego Harbor Police Department Shelter Island Station, San Diego	71.6 dBA	98.7 dBA	19 minutes	66.6 dBA
LT2 B Street Pier, San Diego	88.5 dBA	107.1 dBA	19 minutes	83.5 dBA
LT3 Coronado Municipal Golf Course	76.2 dBA	95.9 dBA	20 minutes	71.4 dBA
LT4 East 31 st Street, National City	63.6 dBA ^b	84.1 dBA ^b	19 minutes	57.8 dBA ^b
LT5 Chula Vista Wildlife Reserve, Chula Vista	51.7 dBA	75.7 dBA	19 minutes	45.8 dBA
LT6 Dempsey Holder Safety Center Lifeguard Tower, Imperial Beach	87.0 dBA	107.2 dBA	18 minutes	81.7 dBA

^a All 1-hour L_{eq} 's have been corrected for ambient noise; i.e., ambient noise levels have been subtracted from the total measured noise level to calculate the noise level attributable to fireworks noise alone.

^b The measured noise levels at LT4 are attributable to National City Fourth of July fireworks at Kimball Park rather than San Diego Bay/Imperial Beach fireworks display events.

Table 4.8-9. Corrected Fourth of July Fireworks Noise Levels for San Diego Bay/Imperial Beach Oceanfront Displays Only

Noise Monitoring Location	Fireworks Display Events				Ambient 1-Hour L_{eq}
	Event L_{eq}^a	Event L_{max}^b	Duration	1-Hour L_{eq}^a	
LT1 San Diego Harbor Police Department Shelter Island Station, San Diego	71.6 dBA	98.7 dBA	19 minutes	66.6 dBA	46.4–57.7
LT2 B Street Pier, San Diego	88.5 dBA	107.1 dBA	19 minutes	83.5 dBA	56.1–61.5
LT3 Coronado Municipal Golf Course	76.2 dBA	95.9 dBA	20 minutes	71.4 dBA	49.9–59.6
LT4 East 31 st Street, National City	42.1 dBA	--	19 minutes	37.1 dBA	55.7–57.3
LT5 Chula Vista Wildlife Reserve, Chula Vista	48.7 dBA	--	19 minutes	43.7 dBA	44.3–44.4
LT6 Dempsey Holder Safety Center Lifeguard Tower, Imperial Beach	87.0 dBA	107.2 dBA	18 minutes	81.7 dBA	66.1–67.7

All L_{eq} values have been corrected for ambient noise; i.e., ambient noise levels have been subtracted from the total measured noise level to calculate the noise level attributable to fireworks noise alone.

^b L_{max} not reported at LT4 or LT5 because measured L_{max} cannot reliably be attributed to San Diego Bay or Imperial Beach Oceanfront fireworks display events.

The same fireworks noise model was used to estimate the noise contour distances (i.e., the distances at which various 1-hour L_{eq} 's would occur) from each of the launch sites for the measured fireworks display events. These contour distances are shown in Table 4.8-10.

Table 4.8-10. Estimated Noise Contours from Measured Fourth of July Launch Locations

1-Hour L_{eq} Noise Contour	Contour Distance From Fireworks Launch Locations (feet)					
	Shelter Island Barge	Harbor Island Barge	North Embarcadero Barge	Central Embarcadero Barge	Glorietta Bay	Imperial Beach Pier
80 dBA	1,665	1,665	1,665	1,660	1,000	1,040
75 dBA	2,680	2,675	2,675	2,675	1,665	1,725
70 dBA	4,135	4,135	4,135	4,135	2,685	2,765
65 dBA	6,065	6,065	6,065	6,065	4,135	4,255
60 dBA	8,500	8,500	8,500	8,500	6,080	6,230
55 dBA	11,385	11,385	11,385	11,385	8,515	8,695
50 dBA	14,665	14,665	14,665	14,665	11,395	11,615
45 dBA	18,280	18,280	18,280	18,280	14,680	14,920

Proposed New Fireworks Display Events

The proposed new fireworks display events would consist of two Fourth of July fireworks display events (one at National City Bayfront and one at Chula Vista Bayfront) and two non-Fourth of July fireworks display events (both at Chula Vista Bayfront). Each of the proposed new Fourth of July fireworks display events are anticipated to use 456 total pounds of fireworks for up to 20 minutes with approximate shell sizes ranging from 3 to 8 inches. All of these variables (total pounds, duration, and shell size) are very similar to the Fourth of July Imperial Beach Fireworks Show measured in 2016. Therefore, it was assumed that the noise levels generated by the proposed new Fourth of July displays (and associated noise contour distances) would be the same as those for the Fourth of July Imperial Beach Fireworks Show.

Each of the other two proposed new non-Fourth of July fireworks display events are assumed to have a duration of approximately 3 to 10 minutes and to use one quarter of the total pounds of fireworks when compared to the proposed new Fourth of July fireworks display events. This reduction in total pounds equates to a noise reduction of 6 dBA in the 1-hour L_{eq} .¹ Therefore, it was assumed that the 1-hour L_{eq} generated by these proposed new non-Fourth of July fireworks display events would be 6 dBA quieter than those for the measured Fourth of July Imperial Beach Fireworks Show.

The precise future locations of the launch barges to be used for the proposed new fireworks display events have not yet been established. To provide a basis for analysis, the assumed locations indicated in Figure 4.8-1 were used. These locations were established by assuming each of the launch barges would be placed as close as possible to the respective Bayfront (Chula Vista or National City) while still maintaining a minimum buffer distance of 1 mile from nesting habitat for sensitive bird species (as suggested by the proposed ordinance that would apply to the displays).

The noise model in Appendix H was used to estimate the noise levels as a result of these proposed new fireworks display events. Table 4.8-11 indicates the assumed source noise levels for each

¹ L_{eq} reduction for reduced pounds of fireworks from 456 to 114 pounds calculated as: $10 \times \log(114/456) = -6$ dB.

proposed new fireworks display event at a standard reference distance of 50 feet. (These levels do not represent the noise at any specific receiver; they are reported to illustrate the relative difference in noise source levels estimated for each proposed display.) Based on these source levels, Table 4.8-12 summarizes the resulting estimated noise contour distances for each of the proposed new fireworks display events.

Table 4.8-11. Estimated 1-Hour L_{eq} at 50 Feet From Proposed New Fireworks Display Events

	Chula Vista, Fourth of July	National City, Fourth of July	Chula Vista, Other Non-Fourth of July (2 events)
1-Hour L_{eq} at 50 feet	107 dBA	107 dBA	101 dBA

Note: A standard reference distance of 50 feet is used to provide a comparison of the noise levels from each proposed fireworks display event. These reference noise levels do not represent the noise at any specific receiver.

Table 4.8-12. Estimated Noise Contours From Proposed New Fireworks Display Events

1-Hour L_{eq} Noise Contour	Contour Distance From Fireworks Launch Locations (feet)		
	Chula Vista, Fourth of July	National City, Fourth of July	Chula Vista, Other
80 dBA	1,040	1,040	550
75 dBA	1,730	1,725	935
70 dBA	2,765	2,765	1,565
65 dBA	4,255	4,255	2,525
60 dBA	6,230	6,230	3,920
55 dBA	8,695	8,695	5,800
50 dBA	11,615	11,615	8,170
45 dBA	14,920	14,920	10,995

Because the project study area is so large and consists of many varied land uses and neighborhoods, ambient noise levels vary widely throughout the study area. The measured ambient 1-hour L_{eq} (for the 9 p.m. to 10 p.m. hour when fireworks display events would occur) varies from 44.3 dBA at the Chula Vista Wildlife Reserve (LT5) to 67.7 dBA at the Dempsey Holder Safety Center Lifeguard Tower (LT6). (Refer to Table 4.8-3 for additional details of the measured ambient noise levels.)

Each jurisdiction's noise standards are a useful tool for providing a standardized set of assumptions regarding ambient noise levels. Knowing that development within each city should typically be required to comply with the relevant noise standards of the municipal code, it is reasonable to assume that ambient noise levels at the various noise-sensitive land uses within each city will be close to the applicable noise standards. Table 4.8-13, below, summarizes the noise standards for each city that would apply during the anticipated fireworks display event time period of 9 p.m. to 10 p.m. Using these assumed ambient noise levels, it is then possible to estimate the distances at which noise from each of the various fireworks launch locations would exceed the ambient noise levels by 10 dBA and create a significant impact. Because the City of Imperial Beach does not have

quantitative noise standards, the assumed ambient noise level is conservatively based on the lowest assumed ambient noise level of the other cities.

Table 4.8-13. Assumed Ambient Noise Levels at Noise-Sensitive Uses, 9 p.m. to 10 p.m.

Land Use	San Diego	Coronado	National City	Chula Vista	Imperial Beach
Single-Family Residential	45	45	55	55	45
Multi-Family Residential	50	50	60	60	50
Other Residential	55	--	--	--	--
Commercial	60	60	65	65	60

Note: The City of Imperial Beach does not have quantitative noise standards; the assumed ambient noise level is based on the San Diego/Coronado Municipal Code noise standards.

Guest lodging facilities, such as hotels, are not considered by the District to be sensitive to daytime noise from project operation; however, they are considered to be sensitive to potential evening and nighttime noise (i.e., noise generated by the project between 7 p.m. and 7 a.m.). Parks are generally closed during nighttime hours so are only considered to be sensitive during the daytime and evening hours of 7 a.m. to 10 p.m. For the purposes of this analysis, both hotels and parks are considered to be commercial land uses.

Proposed New Fourth of July Fireworks Display Event Impacts

Based on the assumed ambient noise levels in Table 4.8-13, for receptors within National City and Chula Vista (which both have the same assumed ambient noise levels), proposed new Fourth of July fireworks display events in National City and Chula Vista Bayfronts would generate a significant impact at any single-family homes (a 1-hour L_{eq} of 65 dBA or more) within 4,255 feet, a significant impact at any multi-family homes (a 1-hour L_{eq} of 70 dBA or more) within 2,765 feet, and a significant impact at any noise-sensitive commercial uses (a 1-hour L_{eq} of 75 dBA or more) within 1,730 feet (see Table 4.8-12). Because these Fourth of July fireworks display events would be required to maintain a minimum buffer distance of 1 mile from nesting habitat for sensitive bird species as a condition of the proposed ordinance and required with the implementation of mitigation measure **MM-NOI-1**, there would be no noise-sensitive receptors in National City or Chula Vista within 4,255 feet of either launch location, and impacts would be less than significant in these cities.

For receptors within the City of Coronado, the proposed fireworks display events would generate a significant impact at any single-family homes (a 1-hour L_{eq} of 55 dBA or more) within 8,695 feet, a significant impact at any multi-family homes (a 1-hour L_{eq} of 60 dBA or more) within 6,230 feet, and a significant impact at any noise-sensitive commercial uses (a 1-hour L_{eq} of 70 dBA or more) within 2,765 feet (see Table 4.8-12). For both the National City and Chula Vista Fourth of July fireworks display events, these impact distances include many homes to the west in the City of Coronado. For the Chula Vista Fourth of July fireworks display event, the impact distances would also include Grand Caribe Shoreline Park in the City of Coronado and, depending on the precise location of the launch barge, could also include a hotel (Loews Coronado Bay Resort). Impacts at these receptors would be significant (**Impact-NOI-1**).

Significant impacts are not anticipated to extend to any other noise-sensitive land uses within Coronado or any other cities. It is noted, however, that if the ultimate location of the launch barge for

the proposed Chula Vista fireworks display event is closer to the Chula Vista Bayfront than was assumed in the analysis (i.e., less than 1 mile from nesting habitat for sensitive bird species), then it is possible some significant impacts could occur within the City of Chula Vista; these impacts would occur at single-family homes, multi-family homes, or noise-sensitive commercial uses located within 4,255 feet, 2,765 feet, or 1,730 feet, respectively, from the launch barge location (**Impact-NOI-1**).

Moving either launch barge east toward the National City and Chula Vista Bayfronts would reduce the level of impact in the City of Coronado; while impacts would not be reduced to less than significant, there would be fewer impacted receivers, and the magnitude of the noise increases at the remaining impacted receivers would be reduced.

Proposed New Other Non-Fourth of July Fireworks Display Events

For receptors within the City of Chula Vista, the proposed new other non-Fourth of July fireworks display events would generate a significant impact at any single-family homes (a 1-hour L_{eq} of 65 dBA or more) within 2,440 feet, a significant impact at any multi-family homes (a 1-hour L_{eq} of 70 dBA or more) within 1,510 feet, and a significant impact at any noise-sensitive commercial uses (a 1-hour L_{eq} of 75 dBA or more) within 895 feet (see Table 4.8-12). Because the assumed launch location would be more than 2,440 feet from the closest receptors in the City of Chula Vista, impacts within the City of Chula Vista would be less than significant.

For receptors within the City of Coronado, these fireworks display events would generate a significant impact at any single-family homes (a 1-hour L_{eq} of 55 dBA or more) within 5,640 feet, a significant impact at any multi-family homes (a 1-hour L_{eq} of 60 dBA or more) within 3,800 feet, and a significant impact at any noise-sensitive commercial uses (a 1-hour L_{eq} of 70 dBA or more) within 1,510 feet (see Table 4.8-12). Based on the assumed location of the launch barge, these impact distances include the Coronado Cays homes and Grand Caribe Shoreline Park to the west in the City of Coronado. Impacts at these receptors would be significant (**Impact-NOI-1**).

Significant impacts are not anticipated to extend to any other noise-sensitive land uses within Coronado or any other cities. It is noted, however, that if the ultimate location of the launch barge for the proposed fireworks display events is closer to the Chula Vista Bayfront than was assumed in the analysis (i.e., less than 1 mile from nesting habitat for sensitive bird species) then it is possible some significant impacts could occur within the City of Chula Vista; these impacts would occur at any single-family homes, multi-family homes, or noise-sensitive commercial uses located within 2,440 feet, 1,510 feet, or 895 feet, respectively, of the launch barge location (**Impact-NOI-1**).

Moving the launch barge east toward the Chula Vista Bayfront would reduce the level of impact in the City of Coronado. As the launch location is moved farther east there would be fewer impacted receivers in Coronado, and the magnitude of the noise increases at the remaining impacted receivers would be reduced. If the launch barge were to be located more than 5,640 feet from single-family homes in Coronado impacts in Coronado would be reduced to less than significant.

Traffic

As discussed above, a review of the Transportation Assessment (Appendix J) indicates only modest changes in vehicular volumes in the study area due to a Fourth of July fireworks display event, with even smaller changes associated with a smaller non-Fourth of July fireworks display event.

Therefore, no substantial change to traffic noise levels is predicted as a result of the proposed new non-Fourth of July fireworks display events, and the impact would be less than significant.

Effect of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would apply to fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance contains several conditions of approval intended to limit impacts on sensitive biological resources. These conditions would require the fireworks display events that occur during the nesting season to either be located outside a 1-mile radius from sensitive habitats, or to both limit maximum shell size to 8 inches and avoid the use of salutes within the first quarter of a fireworks display event. It is not anticipated that any of the existing fireworks display events launch locations would be moved as a result of the ordinance. As a result, the noise levels from existing fireworks display events would remain largely unchanged except for potential abatement (reduction) that would occur as a result of limiting shell sizes and salutes. As such, the effects of the proposed ordinance on existing fireworks display events would not result in an increase in ambient noise levels. Therefore, no significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project (**Impact-NOI-1**). Potentially significant impact(s) include the following.

Impact NOI-1: Substantial Periodic or Temporary Increase in Ambient Noise Levels of the Proposed New Fireworks Display Events. For proposed new fireworks display events (both Fourth of July and non-Fourth of July events), these noise increases would occur at homes and the Grand Caribe Shoreline Park in the City of Coronado, west of the proposed National City and Chula Vista launch locations. Depending on the precise location of the proposed Chula Vista launch barge, substantial noise increases due to the proposed new Fourth of July fireworks display events may also occur at Loews Coronado Bay Resort. If the ultimate location of the launch barge for the proposed Chula Vista fireworks display event is closer to the Chula Vista Bayfront than was assumed in the analysis then it is possible some significant impacts could also occur within the City of Chula Vista. Because the proposed new fireworks display events would occur at locations that do not currently have similar fireworks displays, the affected noise-sensitive receptors are not currently exposed to similar levels of fireworks noise and the impacts would be significant. However, it is also noted that the impacts would be very infrequent (approximately three times per year) and would include the Fourth of July, which is a traditional nationwide event during which most people have a reasonable expectation and understanding that fireworks will occur.

Effect of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not cause or contribute to any increase in ambient noise levels. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

MM-NOI-1: Implementation of Noise-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

- (e) Protection of Sensitive Species and Habitat. The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:
1. Location. Fireworks display events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches.
 2. Salutes. Fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display).

Effect of Proposed Ordinance on Existing Fireworks Display Events

No mitigation required.

Level of Significance After Mitigation

Proposed New Fireworks Display Events

Implementation of mitigation measure **MM-NOI-1** would provide some reduction in overall noise levels from proposed new fireworks display events. The exact amount of noise reduction provided by these conditions cannot be quantified because of the many variables (e.g., precise numbers and types of fireworks to be used, size or shells, etc.), but the reductions would be modest. Because loud noise (including noise levels that are intended to be significantly higher than ambient conditions) is considered an integral part of traditional fireworks display events, mitigation measures, such as avoiding the use of noise-generating fireworks (i.e., using silent fireworks), would fundamentally change the nature of the proposed project and the overall audible experience of the display. No other mitigation measures have been identified. Therefore, impacts would be significant and unavoidable.

To reduce noise impacts associated with the proposed project, various alternatives to traditional fireworks display events are discussed in Chapter 7, *Alternatives to the Proposed Project*, of this Draft EIR.

Effect of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

4.9.1 Overview

This section addresses public service providers' ability to serve the proposed project in accordance with adopted performance standards and discusses whether a potential inability to meet a performance standard would require new or expanded facilities.

The discussion below describes the existing public services and facilities that could be adversely affected by the proposed project; outlines the applicable laws and regulations related to public services and facilities; and analyzes the proposed project's potential effect on (1) fire and emergency response and facilities, (2) police response and facilities, (3) and other public facilities. All other public services and facilities issues, including potential impacts on schools and parks, were addressed in Section XIV of the Initial Study/Environmental Checklist (Appendix A) and were determined to be less than significant. The analysis and conclusions regarding these impacts are also summarized in Chapter 6, Section 6.4, *Effects Not Found to be Significant*.

The analysis is based on the responses of fire, emergency, and police providers to a project description and a questionnaire regarding whether the proposed project would significantly affect the respective provider's ability to provide services and could lead to a need to construct new or expanded facilities. The responses are incorporated in the analysis below and are provided as Appendix I of this EIR.

Based on the analysis that follows, all impacts related to public services and facilities would be less than significant. No mitigation is required.

4.9.2 Existing Conditions

The following section describes the agencies that currently do, or in the future would, provide fire, police, and other public services within the water and land side for fireworks display events within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or are operated by the District's tenants.

4.9.2.1 Fire Protection and Emergency Response

City of San Diego Fire-Rescue Department

The City of San Diego Fire-Rescue Department (SDFD) service area covers 331 square miles; SDFD is responsible for 17 miles of coastline extending 3 miles offshore and serves a population of approximately 1,337,000 people. SDFD has 48 fire stations and employs approximately 1,139 uniformed personnel and 161 civilian personnel, for a total of 1,300 personnel (SDFD 2016).

SDFD provides fire protection and emergency services for fireworks display events that require a Special Event Permit from the City, such as the Big Bay Boom and any displays associated with the

San Diego Symphony Summer Pops, Our Lady of Rosary Church, U.S.S. Midway Museum, and NASSCO. For barge-based fireworks display events, SDFD provides these services on the barges and in any landside viewing areas within the City. SDFD reviews special event applications, issues permits for barge setup and preparation, and provides inspection services on the barges during fireworks display events in accordance with the California Health and Safety Code, Sections 12500–12759, Title 19, California Code of Regulations, Chapter 6 Fireworks, and the California Department of Forestry and Fire Protection’s *Fireworks in California* handbook (Appendix C).

For landside fire protection and emergency services, four SDFD fire stations respond in the event of a fireworks-related emergency along San Diego Bay:

- Fire Station 22 at 1055 Catalina Boulevard
- Fire Station 1 at 1222 1st Avenue
- Fire Station 4 at 404 8th Avenue
- Fire Station 7 at 944 Cesar E. Chavez Parkway

Fire Station 22 is the primary responding unit to incidents near Shelter Island; it has one engine (Becker pers. comm.; SDFD 2016). Fire Station 1 is the primary responding unit to incidents near Harbor Island and North Embarcadero; it has one battalion, two engines, one truck, one light and air unit, one chemical rig, one medic, one mobile canteen, and one x-ray unit. Fire Station 4 is the primary responding unit to incidents near the South Embarcadero, including Embarcadero Marina Park South; it has one engine and one heavy rescue vehicle. Fire Station 7 is the primary responding unit to incidents along central San Diego Bay, near the community of Barrio Logan; it has one engine. The difference between a fire engine and a fire truck is that an engine is the primary piece of fire apparatus for carrying personnel, water, hoses, and pumping equipment, while trucks carry equipment and ladders, but do not have water tanks. A battalion chief’s vehicle is a red sport utility vehicle that will respond with both lights and siren to the scene of incidents.

SDFD uses the National Fire Protection Association (NFPA) 1710 Standard for the Organization and Deployment of Fire Suppression Operations to determine adequate response times. This standard uses a “best practice” initial response time of four firefighters within 5 minutes (1 minute for dispatch and 4 minutes for travel) and an effective fire force of 15 firefighters within 9 minutes (1 minute for dispatch and 8 minutes for travel) (CFD 2010). The current response times of the primary responding units to areas along San Diego Bay within their respective jurisdictions varies between 3–10 minutes.

San Diego Harbor Police Department

Harbor Police Department (HPD) provides law enforcement and marine firefighting services in and around San Diego Bay for the District. Specifically, HPD’s jurisdiction includes all tidelands extending through five member cities: San Diego, Coronado, National City, Chula Vista, and Imperial Beach. There are four HPD offices: downtown San Diego, San Diego International Airport, Chula Vista, and Shelter Island. The downtown San Diego office is at 3380 North Harbor Drive and serves as the headquarters and administration building, while the substations are at 1401 Shelter Island (Police Dock), “J” Street (South Bay), and San Diego International Airport at Lindbergh Field. As of November 2016, HPD has 130 sworn officers, all trained as firefighters and police officers (District 2016). HPD is composed of the following departments as they pertain to fire protection and emergency response.

- **Marine Firefighting** – Marine firefighter officers with HPD are unique because they are cross-trained as both land- and marine-based firefighters. The patrol boats also serve as firefighting boats that respond to fire emergencies in the Bay. Each officer is highly trained and fully equipped with firefighting equipment, and each boat includes a water cannon capable of shooting a stream of water several hundred feet. The fireboats can handle small electrical fires or a large vessel engulfed in flame by containing the fire, knocking it down, rescuing trapped victims, and protecting adjacent vessels in a marina. The fireboats can be cooperatively used with SDFD if necessary, and SDFD takes control of fire protection service upon arrival at the scene.
- **Vessel Patrol** – HPD vessels patrol San Diego Bay, its associated waterways, and coastal areas, similar to the way it patrols on land. These vessels are staffed 24 hours a day, in all types of weather. The primary function is being able to respond to all types of law enforcement-related issues. Additionally, part of the fleet is designed for response to any fire and rescue-related calls. All of HPD's vessels can also accommodate the Dive Rescue Team and the different missions they handle (District 2016). HPD provides two 35-foot patrol boats crewed by two officers with the primary objective of enforcing the rules of the water as they pertain to private watercraft. A third boat is available for peak events in the San Diego Bay.

City of Coronado Fire Department

The Coronado Fire Department provides fire protection and emergency services for fireworks display events in the City, such as the Fireworks Show Over Glorietta Bay. For barge-based fireworks display events, the Coronado Fire Department provides these services on the barge and within landside viewing areas in the City. The Coronado Fire Department has 30 fire suppression personnel staffing two fire stations on a 24-hour basis. The Coronado Fire Department also provides lifeguard service to the City's ocean beaches, and has access to a small boat for bay use. The main station in the middle of the village has one Advanced Life Support (ALS) assessment fire engine and one ambulance, while the Coronado Cays station has one ALS assessment fire engine. The Coronado Fire Department has mutual aid agreements with other governmental agencies such as the Navy, SDFD, and the City of Imperial Beach. The Coronado Fire Department also relies heavily on District assistance for fighting fires in the bay (City of Coronado 2005).

The Coronado Fire Department uses the NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations to determine adequate response times. The Coronado Fire Department's first engine company is predicted to be on scene in 4 minutes or less, which meets the NFPA 1710 standard. However, if the entire first alarm is not on scene in 8 minutes or less, the NFPA 1710 guideline would not be met (Blood pers. comm.). The Coronado Fire Department utilizes a robust Automatic Aid System and the bulk of this response comes from surrounding agencies. Additional resources can be requested on an as-needed basis by the Incident Commander.

The Coronado Fire Department reviews special event applications, issues permits for barge setup and preparation, and provides inspection services on the barge during fireworks display events in accordance with the California Health and Safety Code, Sections 12500–12759, Title 19, California Code of Regulations, Chapter 6 Fireworks, and the *Fireworks in California* handbook (Appendix C).

City of National City Fire Department

The National City Fire Department provides fire protection and emergency medical services in National City, and the Lower Sweetwater Fire Protection District covers the unincorporated area of Lincoln Acres. The department operates out of two fire stations and serves an area of approximately 9 square miles with 63,000 residents. Station 34 is at 343 East 16th Street, and Station 31 is at 2333 Euclid Avenue in unincorporated Lincoln Acres. The administration office is at 1243 National City Boulevard. The National City Fire Department is composed of three divisions: Administration, Fire Prevention, and Operations, and maintains a staff of 44 personnel that provide fire control, emergency medical service, rescue, and fire prevention and education. The department is dependent on automatic aid and mutual aid partners, including the cities of San Diego and Chula Vista, as well as Federal Fire and the Bonita Fire Protection District (City of National City 2011). Station 34 would provide the primary response for a proposed new fireworks display event along the National City Bayfront, and would involve Truck 34 and Engine 34.

The National City Fire Department contracts with a private ambulance provider to provide emergency medical services within the City. Fire department personnel typically arrive on scene first and provide basic and ALS services. When paramedic ambulance crews arrive to provide ALS support services, fire department personnel regularly assist. In most instances, depending on staffing levels, the department provides a paramedic on both Engine 34 and Engine 31, in addition to paramedic services on ambulances provided by the ambulance provider. The National City Fire Department uses the NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations to determine adequate response times. The current response time is approximately 6 minutes from the time of the 911 call to the time on scene, 90 percent of the time.

The National City Fire Department would provide fire protection and emergency services during a proposed new fireworks display event along the National City Bayfront on the barge and within the landside viewing areas. The National City Fire Department would review special event applications, issue permits for barge setup and preparation, and provide inspection services on the barge during this proposed new fireworks display event in accordance with the California Health and Safety Code, Sections 12500–12759, Title 19, California Code of Regulations, Chapter 6 Fireworks, and the *Fireworks in California* handbook (Appendix C).

City of Chula Vista Fire Department

The Chula Vista Fire Department provides fire protection and emergency medical services and has 140 total personnel. Currently, the department consists of nine fire stations that are staffed on a 24-hour basis with 36 personnel plus two battalion chiefs for each 24-hour shift. In March of 2008, the Chula Vista Fire Department contracted fire and emergency medical dispatch services with SDFD. The department is dispatched for all 911 calls for service using automatic vehicle location technology that identifies the closest and most appropriate emergency resource type. Additionally, the Chula Vista Fire Department transitioned to a new level of Emergency Medical Service that provides a Paramedic or ALS on all responses from the department.

The Chula Vista Fire Department uses the NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations to determine adequate response times. The City of Chula Vista response time metric is 7 minutes for 80 percent of the calls for the first unit to arrive on scene. Current response times from the primary fire station(s) to the areas along the Chula Vista Bayfront are 5 minutes from Fire Station 1, 7 minutes from Fire Station 2, and 8 minutes from Fire

Station 5. The primary response unit for areas along the Chula Vista Bayfront include three Type 1 Engines, one Type 1 Truck, and one Incident Commander (Muns pers. comm.).

The Chula Vista Fire Department would provide fire protection and emergency services during a proposed new fireworks display event along the Chula Vista Bayfront on the barge and within the landside viewing areas. The Chula Vista Fire Department would review special event applications, issue permits for barge setup and preparation, and provide inspection services on the barge during this proposed new fireworks display event in accordance with the California Health and Safety Code, Sections 12500–12759, Title 19, California Code of Regulations, Chapter 6 Fireworks, and the *Fireworks in California* handbook (Appendix C).

City of Imperial Beach Fire Department

The Imperial Beach Fire Department provides fire protection and emergency services for fireworks display events in the City, such as the Fourth of July Imperial Beach Fireworks Show. The fire department provides these services at the fireworks launch site and within any landside viewing areas in the City. The Imperial Beach Fire Department has one fire station, staffed with 12 suppression personnel, one secretary, one deputy chief, and one fire chief/public safety director. Suppression personnel include three captains, one engineer, two engineer/paramedics, four firefighter/paramedics, and one firefighter (City of Imperial Beach 2016). The department provides fire suppression, emergency medical services, prevention, education, inspection, community service, and weed abatement duties. Response times are not relevant to special events, as the department currently implements event-specific response plans for this and other high-congestion events. Additionally, all Imperial Beach fire engineers are trained and accredited through the State of California to respond in a variety of conditions, including heavy traffic (Santos pers. comm.).

The Imperial Beach Fire Department reviews special event applications, issues permits for fireworks setup and preparation, and provides inspection services on the Pier during fireworks display events in accordance with the California Health and Safety Code, Sections 12500–12759, Title 19, California Code of Regulations, Chapter 6 Fireworks, and the *Fireworks in California* handbook (Appendix C).

4.9.2.2 Police Protection

City of San Diego Police Department

The San Diego Police Department (SDPD) provides law enforcement services for areas within the District’s jurisdiction that generate City tax revenue (e.g., San Diego Convention Center, hotels, restaurants). SDPD includes a wide range of units from narcotics, robbery, and vice to education, records, and communications. SDPD consists of nine neighborhood divisions. The areas around San Diego Bay are within the jurisdiction of SDPD’s Central Division and Western Division, the headquarters of which are at 2501 Imperial Avenue and 5215 Gaines Street, respectively. The Central Division is responsible for a 9.7-square-mile area and a population of 103,524 residents, which extends beyond the Downtown Community Plan boundaries. The Western Division encompasses 22.7 square miles and serves a population of 129,709 residents (City of San Diego 2016).

The quality of SDPD police protection services is evaluated by the average response time to an emergency call. Table 4.9-1 shows SDPD’s standards for determining adequate response times and recent actual response times. As shown in Table 4.9-1 below, some call type priorities are not within

SDPD’s response time standards. SDPD develops event-specific operational plans to ensure effective response times during fireworks display events during the Fourth of July weekend and other events for any affected commands. Assigned officers are strategically deployed in the affected areas to navigate heavy traffic, and a supervisor is assigned to oversee utilization of police personnel and resources (Underwood pers. comm.). There is also a City-wide goal for SDPD to have 1.48 officers per 1,000 residents. As of August 8, 2016, SDPD has 1,783 sworn officers and a ratio of 1.36 officers per 1,000 residents (Underwood pers. comm.).

Table 4.9-1. San Diego Police Department Response Time Standards and Actual Response Times

Call Type	Description	Standard (minutes)	Actual (minutes)
Priority Emergency (E)	Imminent threat to life	7	6.9
Priority 1	Serious crimes in progress	14	13.2
Priority 2	Less serious, non-life-threatening crimes	27	30.6
Priority 3	Minor crimes/non-urgent requests	70	76.8
Priority 4	Minor requests for police service	70	83.3

Source: Underwood pers. comm.

San Diego Harbor Police Department

In addition to providing marine-based firefighting services, HPD is the law enforcement authority for the District. The various locations over which HPD has jurisdiction are described above under Section 4.9.2.1, *Fire Protection and Emergency Response*.

HPD vehicle patrols monitor all activity on land around the Bay and include the following departments.

- **Vehicle Patrol** – HPD provides police protection services throughout the District’s jurisdiction, including portions of the following member cities: San Diego, Coronado, Chula Vista, National City, and Imperial Beach.
- **Bike Team** – The HPD Bike Team is a specially trained unit that is used for assisting in general patrol duties, as well as special events. This unit can access areas that patrol cars cannot and is an effective tool that helps to curtail criminal activities via highly visible and proactive patrol. It is also used for special events, such as the Big Bay Boom. Officers receive numerous hours of training and tactics to accomplish the mission, and ride specially designed bicycles made for law enforcement work.
- **Vessel Collision Team** – San Diego HPD has a team of officers that are specially trained in vessel collision investigations. This team responds to any serious vessel collisions, sinkings, and major fires on San Diego Bay. These investigations can be very complex and difficult to handle due to the nature of a “floating scene.” The team handles all types of vessel versus vessel and vessel versus non-vessel incidents. HPD Vessel Collision Investigators have been a part of many high-profile and very serious cases in recent years. Its talents and training have proved a very valuable resource for the region.

- Dive Team** – San Diego HPD has the premier Dive Team in San Diego County. This team is specially trained in search and rescue, evidence and body recovery, underwater explosive detection, vehicle recovery, and many other surface and underwater capabilities. The Dive Team has two sergeants who supervise a 20-member team. All members are able to be called in for any water emergency, around the clock. The team also has a dedicated primary dive boat as well as a towable Rigid Hull Inflatable Boat (District 2016).

During existing Fourth of July fireworks display events, HPD increases personnel staffing on patrol versus normal personnel staffing on patrol. HPD also assigns units to major patrol areas. Effective response times are achieved by the use of additional units on tidelands including bicycle units and vessel units (Brick pers. comm.). Additionally, HPD has traffic plans for before, during, and after fireworks display events. HPD also has an Emergency Operations Guide for responses during fireworks display events. The quality of HPD protection services is evaluated by the average response time to an emergency call, which is measured against the adopted response time standard for that particular type of call. HPD currently only has defined standards for Priority 1 calls. Table 4.9-1 shows HPD's standards for determining adequate response times and actual response times for July 4, 2016. As shown in Table 4.9-2, there are no current deficiencies in HPD's response times, particularly during the Fourth of July holiday.

Table 4.9-2. Harbor Police Department Response Time Standards and Actual Response Times (July 4, 2016)

Call Type	Location	Standard (minutes)	Actual (minutes)
Priority 1	Vehicle	≤7	6.6
	Vessel	≤9	3.7
	Airport	≤5	3.3
Priority 2 ¹	Vehicle		2.3
	Vessel		2.8
	Airport		1.2

Source: Brick pers. comm.
¹ HPD does not have any defined standards for Priority 2 calls.

City of Coronado Police Department

The Coronado Police Department employs a total of 40 sworn and 18 non-sworn personnel. The department staffs police officers, reserve officers, outside agencies, volunteers, explorers, and contracted security personnel in order to ensure adequate response times. During special events such as fireworks display events, the Emergency Operations Center is in operation, patrol and dispatch staffing levels are increased to handle calls for service, and outside local law enforcement personnel provide additional support to help monitor higher traffic and pedestrian volumes. In addition, the department follows an emergency response plan to respond to emergencies during special events (Castellano pers. comm.). The department strategically places personnel throughout the City to be able to respond timely to all calls for service. As shown below in Table 4.9-3, there are no current deficiencies in the department's response times.

Table 4.9-3. Coronado Police Department Response Time Standards and Actual Response Times

Call Type	Description	Standard (minutes)	Actual (minutes)
Priority Emergency (E)	Imminent threat to life	5	2.5
Priority 1	Serious crimes in progress	5	2.5
Priority 2	Less serious, non-life-threatening crimes	ASAP	5
Priority 3	Minor crimes/non-urgent requests	ASAP	7.5
Priority 4	Minor requests for police service	ASAP	7

Source: Castellano pers. comm.

City of National City Police Department

The National City Police Department is headquartered at 1200 National City Boulevard and employs a total of 86 sworn and 49 non-sworn personnel spread out over six shifts. Staffing is dependent on the beat, time of day, and crime trends in the City. Currently, there is no city-wide officer-to-resident ratio goal. During special events such as fireworks display events, the department implements an operational plan and a traffic plan to respond to any emergencies during these events (Sullivan pers. comm.). As shown below in Table 4.9-4, there are no current deficiencies in the department's response times.

Table 4.9-4. National City Police Department Response Time Standards and Actual Response Times

Call Type	Description	Standard ¹ (minutes)	Actual (minutes)
Priority Emergency (E)	Imminent threat to life		3.6
Priority 1	Serious crimes in progress		9.9
Priority 2	Less serious, non-life-threatening crimes		20.9
Priority 3	Minor crimes/non-urgent requests		5.7
Priority 4	Minor requests for police service	Self-initiated ²	0.1

Source: Sullivan pers. comm.

¹ The National City Police Department currently does not have any adopted standards for different call types.

² Priority 4 call types are officer initiated and occur when an officer makes his own stop.

City of Chula Vista Police Department

The Chula Vista Police Department employs a total of 227 sworn officers and 84 civilian personnel. Officers work three 10-hour shifts Monday through Thursday, and three 12.5-hour shifts Friday through Sunday. Approximately 10 to 19 sworn officers are deployed per shift. During special events such as fireworks display events, additional City services may be allocated through the City's special event planning and permitting processes (Redmond pers. comm.). As shown below in Table 4.9-5, the department is currently deficient in its response times.

Table 4.9-5. Chula Vista Police Department Response Time Standards and Actual Response Times

Call Type	Description	Standard ¹ (minutes)	Actual (minutes)
Priority 1	Serious crimes in progress	6	6.8
Priority 2	Less serious, non-life-threatening crimes	12	13.8

Source: Redmond pers. comm.
¹ The Chula Vista Police Department currently only has standards for Priority 1 and 2 call types.

City of Imperial Beach Police Department

The Imperial Beach Station of the San Diego County Sheriff's Department provides contract law enforcement services to the City of Imperial Beach and the unincorporated communities of Bonita, Sunnyside, Chula Vista, Lincoln Acres, Proctor Valley, San Miguel Mountain, Otay Valley, and Otay Mesa. The division has approximately 40 sworn personnel assigned to the command. Imperial Beach has a population of approximately 26,000 residents and covers about a 4-square-mile area. Units include:

- Patrol Deputies: Patrol deputies respond to calls for service 24 hours a day
- Traffic Deputies: Traffic deputies handle vehicle code enforcement, traffic collision investigations, and traffic control within the City of Imperial Beach
- Detectives: Detectives investigate cases involving theft, physical assaults (excluding homicides), sexual assaults, vandalism, burglaries, annoying phone calls, and other crimes. Specialized investigative units such as homicide, bomb/arson, financial crimes, domestic violence, child abuse, and narcotics handle specific crimes for the entire Sheriff's jurisdiction, including the Imperial Beach Station
- Crime Prevention Specialists and Senior Volunteers

During special events such as fireworks display events, deputies are assigned to locations in the City in order to ensure effective response times. The needs of the City, expected number of event attendees, and traffic expectations are provided to the command before such events so resources are strategically placed in order to minimize travel time. During special events such as fireworks display events, strategic placement of deputies ensures little to no impact from traffic conditions. Generally, response times for non-emergency calls are 5 minutes or less and emergency calls are responded to in under 2 minutes (Taft pers. comm.)

4.9.2.3 Other Public Services

Other public service providers for fireworks display events within San Diego Bay and the Imperial Beach Oceanfront include the U.S. Coast Guard (USCG). USCG Sector San Diego is headquartered on the waterfront across from the San Diego International Airport and consists of helicopters, small boats, cutters, aids to navigation, marine safety inspections, and other operations. USCG is responsible for USCG operations from the Mexican border northward to above San Mateo Point, and offshore as far as 200 miles. Under certain circumstances, search and rescue operations can even be extended into Mexican waters. Team Coast Guard in San Diego consists of 230 Active Duty, 150 Reservist, and 700 volunteer Auxiliary members (USCG Sector San Diego 2016).

USCG facilitates events that occur on federal waterways by receiving, analyzing, and reviewing Applications for Marine Event for each event. For barge-based fireworks display events, USCG enforces regulatory Safety Zones around each barge (to ensure public safety and clearance of the area) as well as enforcement (as appropriate) of the Navigation Rules (vessel transits, vessel lighting, vessel anchoring, etc.). Staffing is increased on the night of the event, with additional patrol units providing specific event command and control, and multiple active duty and auxiliary vessel assets. A “normal duty watch” is also provided, consisting of a command center, search and rescue and law enforcement vessels, and search and rescue aircraft.

For fireworks display events occurring within San Diego Bay, USCG closely coordinates with HPD and the responsible city’s fire department on the position and location of personnel and assets, in addition to normal requirements and duties for operations related to safety and security within their area of responsibility (Cole pers. comm.).

4.9.3 Applicable Laws and Regulations

4.9.3.1 Federal

United States Coast Guard Marine Safety Program

Pursuant to 33 Code of Federal Regulations (CFR) 100, USCG implements the Marine Safety Program, which is designed to ensure the safety of vessels and recreational boaters on navigable U.S. waters during fireworks display events. USCG issues marine event notifications to sponsors of public fireworks display events that have the potential to endanger marine safety. An application for the marine event must be submitted to USCG no later than 135 days prior to the event if the applicant does not meet criteria specified in 33 CFR 100.15(c), or 60 days prior to the event if the applicant does meet the criteria. After issuing a marine event notification for the fireworks display event, USCG is authorized to promulgate special local regulations as necessary to ensure public safety on navigable waters immediately prior to, during, and immediately after the approved fireworks display event. Such regulations may include a restriction on or control of the movement of vessels through a specified fireworks display event area.

4.9.3.2 State

California Department of Forestry and Fire Protection Fireworks in California Handbook

The *Fireworks in California* handbook was prepared by the California Department of Forestry and Fire Protection and includes a compilation of all relevant national and state standards relating to fireworks (Appendix C). The Health and Safety Codes direct the California State Fire Marshal to prepare regulations governing the use of fireworks in California. The law provides a general framework around which more detailed regulations have been developed. The objective of the *Fireworks in California* handbook is to provide a publication that will enhance the safe use of pyrotechnic material and to be a reference source for enforcement and fire prevention personnel as well as licensees. The following laws and regulations are identified in the *Fireworks in California* handbook and are directly applicable to the proposed project.

California Health and Safety Code, Sections 12500–12759 (State Fireworks Law)

California's Fireworks Law, passed in 1938, established the Office of the State Fire Marshal as the only fireworks classification authority in California. Fireworks are classified through laboratory analysis, field examinations, and test firing of items. As part of the program, the State Fire Marshal requires the licensing of all pyrotechnic operators, fireworks manufacturers, importer-exporters, wholesalers, retailers, and public display companies. Pyrotechnic operators who discharge fireworks at public displays or launch high-powered and experimental rockets must also pass a written examination and provide proof of experience.

The state's Explosives Law authorizes the State Fire Marshal to adopt regulations for the safe use, handling, storage, and transportation of explosives. Under those regulations, local law enforcement agencies track the location of storage magazines within their jurisdictions through a permit process. Special exemptions have been provided within the regulations to allow for limited possession and storage of some explosives, such as black powder, used by hunters and the sporting community.

Title 19, California Code of Regulations, Chapter 6, Fireworks

Article 3 of Chapter 6 of the California Code of Regulations dictates that no person shall engage in any type of fireworks activities without having submitted an application for and having obtained a license from the State Fire Marshal in accordance with the provisions of the chapter. Exceptions include Licensed Pyrotechnic Operators Basic Commercial, Restricted Commercial, and Rockets, First Class, who may employ unlicensed assistants. Licensed special effects and theatrical pyrotechnicians may employ unlicensed assistants. Unlicensed assistants shall perform only when under the direct, immediate, and constant supervision of the licensee when handling fireworks and pyrotechnic compositions. In addition, when applying for a permit under Health and Safety Code Section 12640(e), an applicant shall submit the following information and evidence to the authority having jurisdiction.

1. The name of the organization sponsoring the display, together with the names and license numbers of persons actually in charge of the display.
2. The date and time of day the display is to be held.
3. The exact location planned for the display.
4. The size and number of all fireworks to be discharged including the number of set pieces, shells, and other items. Shells shall be designated by diameter specifying single, multiple break, or salute.
5. The manner and place of storage of all fireworks prior to, during, and after the display.
6. Diagram of the grounds on which the display is to be held showing the point at which the fireworks are to be discharged; the location of all buildings, roads, and other means of transportation; the lines behind which the audience will be restrained; and the location of all nearby trees, telegraph or telephone lines, or other overhead obstruction.
7. Proof that satisfactory workers' compensation insurance is carried for all employees in compliance with Labor Code Section 3700.
8. If the permit is for a public display or special effects, documentary proof of conformance with Sections 12610 and 12611, Health and Safety Code.

9. A State Fire Marshal's license for the public display of fireworks, under Health and Safety Code Sections 12575, 12576, or 12577. No permit for a public display of any type shall be granted unless a public display license general, special, or limited has been first obtained from the State Fire Marshal.
10. The name and license number of the wholesaler who supplied all items used in the display.

4.9.3.3 Local

Port Master Plan

Development along the waterfront is guided by the Port Master Plan, which divides tidelands around the Bay into ten Planning Districts, each with its own corresponding Precise Plan. Existing and proposed new fireworks display events currently occur or would occur within or adjacent to Planning District 1, Shelter Island/La Playa; Planning District 2, Harbor Island/Lindbergh Field; Planning District 3, Centre City Embarcadero; Planning District 4, Tenth Avenue Marine Terminal; Planning District 5, National City Bayfront; Planning District 6, Coronado Bayfront; Planning District 7, Chula Vista Bayfront; and Planning District 10, Imperial Beach Oceanfront.

City of San Diego Special Event Permit

In the City of San Diego, a Special Event Permit is required for an organized activity that incorporates the use of:

- City public streets, sidewalks, and rights-of-way; and/or
- City public parks or other City public property; and/or
- Outdoor private property including parking lots, only when the property is part of a Special Event Venue that includes City public property and permission has been received by the property owner/manager (for example, a parking lot used as part of a street festival venue).

All activities associated with the use of pyrotechnics must be reviewed and approved by SDFD in compliance with the International Fire Code, as amended by the State of California and City of San Diego. Examples include indoor and outdoor fireworks, lasers, model rocket launches, and special effects using pyrotechnical devices. A permit and full demonstration to the Fire Marshal prior to the event date is required. As part of the permit requirements, onsite stand-by and inspection services may be required due to the size, complexity, and/or unique safety issues regarding the activities associated with the event.

City of Coronado Operations Permit: Public Displays of Fireworks

An operations permit is required for the activities set forth in Title 20, Operations Permits, of the Coronado Municipal Code. The activities described in Title 20 require regulation by the City to protect and promote the health, safety, and public peace of the community. An operations permit for public displays of fireworks is required under Chapter 20.16 of Title 20. An application for a public display of fireworks operations permit must be filed no later than 14 days prior to the proposed date of the public fireworks display. The Director of Fire Services is authorized to issue the public displays of fireworks operations permit.

City of Coronado Special Event Permit

Individuals and organizations wishing to hold an event in City-owned facilities or on public rights-of-way shall obtain a Special Event Permit from the City Manager's Office or Recreation Services, depending on the size or type of event. Review of the Special Event Permit application by City staff and/or the City Council ensures the event will be held safely with minimum disruption to the surrounding community, and that the cost of the event is borne by its sponsors. A special event is any scheduled or planned non-emergency event occurring within the City of Coronado that can reasonably be expected to require increased or modified emergency or non-emergency services or support by the City government and personnel. There are three types of special events that require approval by the City Manager and/or City Council: Major Events, Moderate Events, and Minor Events.

City of National City Temporary Use Permit

Temporary Use Permits are used for certain special activities, events, or structures that are beneficial to the public for limited periods of time even though it would not comply with building, fire, zoning, or other local codes, if they were permanent. Chapter 15.60 of the National City Municipal Code regulates these permits. In general, for any organized activity that uses public property, facilities, parks, sidewalks, streets, or any public rights-of-way, applicants need to obtain this permit. In some cases, activities or events taking place on private property also require a Temporary Use Permit. Temporary Use Permits include submittal of information such as staging required, roadways used and/or closed for the event, times, and other information. These Temporary Use Permits are forwarded to City departments such as the fire department for review and emergency planning purposes (Hernandez pers. comm.). There are three types of Temporary Use Permits for different uses and activity: Class A, Class B, and Class C. Class A activities require City Council approval and include activities such as block or holiday parties, fairs, and musical concerts/festivals. Class B activities are subject to conditions and City codes, as applicable, and include activities such as mobile trailers for offices on active construction sites or for temporary classrooms. Class C activities are subject to Business License Regulations, and include activities such as Christmas tree sale lots, garage sales, and special promotion/outdoor sales. The City may also attach any conditions and/or limitations deemed necessary to protect public health, safety, and welfare. Such conditions may include hours of use, security, trash collection and disposal, and traffic control. The City will also notify the applicant of any supplemental permits and provisions that may be required, such as a County environmental health permit, fire permit, or fireworks permit.

City of National City Fireworks Permit

For special events requiring a Temporary Use Permit that propose to include a fireworks display, a fireworks permit must also be obtained from the National City Fire Department in addition to the Temporary Use Permit. The fireworks permit must be obtained at least 2 weeks prior to the event. The National City Fire Department has absolute authority, control, and decisions over all fireworks and/or pyrotechnic displays for which it issues a permit. An inspection from the fire department must be obtained prior to any ignition of any fireworks.

City of Chula Special Event Permit

The City of Chula Vista maintains Special Event Guidelines, which outline the Special Event Permit process and any special event-related permit types, as well as the requirements for event

infrastructure, operational plans (e.g., medical, traffic control), community outreach, and insurance. The Special Event Permit process is managed by the Office of Communications and supported by the Special Events Management Team. The permit process involves submitting a permit application to the Office of Communication, which is responsible for reviewing and issuing the Special Event Permit. There are a number of different special event-related permits that may be issued independent of, or in addition to, a Special Event Permit. Examples of special event-related permits include alcohol use permits, building permits (for temporary structures), and a firework/pyrotechnic/special effect/laser permit. The proposed event venue, activities, components, attendance, and unique circumstance of the event are contributing factors to the final determination of the required permit types.

City of Chula Vista Firework/Pyrotechnic/Special Effect/Laser Permit

A firework/pyrotechnic/special effect/laser permit is one of the special event-related permits outlined in the City of Chula Vista's Special Event Guidelines. This permit may be issued independent of, or in addition, to a Special Event Permit, and is required for all activities associated with the use of pyrotechnics and open flames and must be reviewed and approved by the Chula Vista Fire Department in compliance with the California Fire Code as amended by the State of California and City of Chula Vista. Examples of activities in this category include outdoor fireworks, lasers, model rocket launches, open flame activities such as fire walking, and special effects using pyrotechnical devices. As part of the permit requirements, onsite stand-by and inspection services may be required due to the size, complexity, and/or unique safety issues regarding the activities associated with the event.

City of Imperial Beach Special Event Permit

A Special Event Permit is required for any organized activity held completely or partially on public land (excluding recreation centers), or an event requiring adjacent parking or traffic variances, or an activity on privately owned property when the property is not designed or intended for that activity. The Imperial Beach Fire Department must be notified as part of the special event permit application process if the special event includes fireworks.

4.9.4 Project Impact Analysis

4.9.4.1 Methodology

The following impact analysis evaluates the potential impacts on public services by addressing the public service providers' ability to serve the proposed new fireworks display events in accordance with adopted performance standards. However, an inability to provide such service to the proposed new fireworks display events in accordance with the established performance standards is not automatically considered a significant impact on the environment; rather, any such inability is considered in relationship to existing facilities, and a determination is made as to whether new or expanded facilities would be needed, the construction of which could result in a significant impact on the environment.

This section discusses the proposed project's impacts on existing public services and facilities within the cities of National City and Chula Vista in association with the proposed new fireworks display

events along their respective Bayfronts. The analysis evaluates potential impacts on the following resources:

- Fire protection and related facilities;
- Police protection and related facilities; and
- Other public facilities

In addition to a review of relevant plans and policies, fire, police, and other public safety service providers were contacted and sent questionnaires to determine if the proposed new fireworks display events would significantly affect the respective providers' abilities to provide services, which could lead to construction of new or physically altered facilities. Their responses are summarized below in Section 4.9.4.3, *Project Impacts and Mitigation Measures*.

4.9.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining the significance of impacts associated with public services and recreation resulting from implementation of the proposed project. The determination of whether a public services or recreational impact would be significant is based on the professional judgment of the District as Lead Agency supported by the recommendations of qualified personnel at ICF and is based on the evidence in the administrative record.

Impacts are considered significant if the project would result in any of the following:

1. Fire Protection and Emergency Response—Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.
2. Police Protection—Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.
3. Other Public Services—Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools.

4.9.4.3 Project Impacts and Mitigation Measures

Threshold 1: Fire Protection and Emergency Services—Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.

Impact Discussion

Fire protection and emergency response services for the proposed new fireworks display events would be provided by the National City Fire Department, Chula Vista Fire Department, and HPD (marine firefighting services).

The need for new or physically altered government facilities to maintain acceptable service ratios, response times, or other performance objectives for the National City Fire Department, Chula Vista Fire Department, and HPD would only potentially occur if the proposed new fireworks display events resulted in a permanent increase in population near viewing areas, which would potentially increase demand on fire protection and emergency response services of these agencies.

Proposed New Fireworks Display Events

The proposed new fireworks display events would be temporary and infrequent in nature and, therefore, would not require the construction of any permanent landside or waterside support facilities or residential structures that would create any long-term demand on public services. However, during the proposed new fireworks display events, an increase in the number of visitors to the National City and Chula Vista Bayfronts is expected to occur. This would potentially place increased demand on the fire and emergency response services of the National City and Chula Vista Fire Departments and HPD. Safety concerns related to the gathering of public in viewing areas could include fireworks display event management and response to hazards or security issues.

National City Fire Department

The National City Fire Department would provide fire protection and emergency services during the proposed new Fourth of July fireworks display event along the National City Bayfront on the barge and within the landside viewing areas in the City. During the proposed new Fourth of July fireworks display event, it is anticipated that there would be an increase in the number of visitors to the National City Bayfront. This would potentially temporarily place increased demand on the fire and emergency response services of the City. The current average general response time is approximately 6 minutes from the time of the 911 call to the time on scene, 90 percent of the time. The City of National City requires Temporary Use Permits for special events, which are forwarded to City departments such as the fire department for review and emergency planning purposes (Hernandez pers. comm.). The City may attach any conditions and/or limitations to the Temporary Use Permit deemed necessary to protect public health, safety, and welfare. Such conditions may include hours of use, security, trash collection and disposal, and traffic control. In addition, a fireworks permit from the National City Fire Department would be required for the proposed new fireworks display event. The fireworks permit must be obtained at least 2 weeks prior to the

fireworks display event. The National City Fire Department has absolute authority, control, and decisions over all fireworks and/or pyrotechnic displays for which it issues a permit. An inspection from the fire department must be obtained prior to any ignition of any fireworks.

In addition, proposed new fireworks display events along the National City Bayfront would be required to comply with all federal, state, and local laws and regulations governing fireworks, including but not limited to the laws and regulations set forth in the *Fireworks in California* handbook, which is enforced by the responsible city fire department with jurisdiction over each display, as well as any special event permit requirements of the National City Fire Department. Therefore, new or expanded fire protection or emergency service facilities would not need to be constructed in order to maintain acceptable service ratios, response times, or other performance objectives of the National City Fire Department, and impacts would be less than significant.

Furthermore, as discussed in Section 4.10, *Transportation, Circulation, and Parking*, the implementation of mitigation measure **MM-TRA-1** requires compliance with the traffic-related conditions of the proposed ordinance, which requires implementation of an Event Transportation and Parking Management Plan before, during, and after each proposed new fireworks display event. Implementation of mitigation measure **MM-TRA-1** would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby reducing the potential for delay that might impede emergency response.

Chula Vista Fire Department

The Chula Vista Fire Department would provide fire protection and emergency services during both the proposed new Fourth of July and non-Fourth of July fireworks display events along the Chula Vista Bayfront on the barge and within the landside viewing areas in the City. Current response times from the primary fire station(s) to the areas along the Chula Vista Bayfront are 5 minutes from Fire Station 1, 7 minutes from Fire Station 2, and 8 minutes from Fire Station 5. The primary response unit for areas along the Chula Vista Bayfront include three Type 1 Engines, one Type 1 Truck, and once Incident Commander (Muns pers. comm.). During the proposed new fireworks display events, it is anticipated that there would be an increase in the number of visitors to the Chula Vista Bayfront, particularly during the proposed new Fourth of July fireworks display event. This would potentially temporarily place increased demand on the fire and emergency response services of the City. However, because the two proposed new non-Fourth of July fireworks display events in Chula Vista are anticipated to be significantly smaller in scale when compared to the proposed new Fourth of July fireworks display event, the demand for fire protection services would be minimal compared to a fireworks display event on the Fourth of July.

The City currently maintains Special Event Guidelines, which outline the Special Event Permit process and any special event-related permit types, as well as the requirements for event infrastructure, operational plans (e.g., medical, traffic control), community outreach, and insurance. There are multiple types of operational plans that may be required as part of the Special Event Permit issued by the City. Events with a higher potential risk are required to implement an appropriate medical operational plan to address the specific needs of the attendees and/or participants. These operational plans are developed for each special event application approval. In accordance with the City's Special Event Guidelines, medical operational plans specific to each proposed new fireworks display event would be implemented if deemed necessary through the Special Event Permit process; therefore, response times to the sites of these proposed new displays

are not relevant as emergency/medical response units would be strategically assigned per each proposed new fireworks display event in order to maintain effective response.

In addition, there are a number of different special event-related permits that may also be issued independent of, or in addition to, a Special Event Permit. The proposed event venue, activities, components, attendance, and unique circumstance of the event are contributing factors to the final determination of the required permit types. A firework/pyrotechnic/special effect/laser permit is one of the special event-related permits outlined in the City of Chula Vista's Special Event Guidelines. This permit is required for all activities associated with the use of pyrotechnics and open flames and must be reviewed and approved by the Chula Vista Fire Department in compliance with the California Fire Code as amended by the State of California and City of Chula Vista. As part of the permit requirements, onsite stand-by and inspection services may be required due to the size, complexity, and/or unique safety issues regarding the activities associated with the event. Furthermore, proposed new fireworks display events along the Chula Vista Bayfront would be required to comply with all federal, state, and local laws and regulations governing fireworks, including but not limited to the laws and regulations set forth in the *Fireworks in California* handbook, which is enforced by the responsible city fire department with jurisdiction over each display, as well as any additional special event permit requirements of the Chula Vista Fire Department. Therefore, new or expanded fire protection or emergency service facilities would not need to be constructed in order to maintain acceptable service ratios, response times, or other performance objectives of the Chula Vista Fire Department, and impacts would be less than significant.

Furthermore, as discussed in Section 4.10, *Transportation, Circulation, and Parking*, the implementation of mitigation measure **MM-TRA-1** requires compliance with the traffic-related conditions of the proposed ordinance, which require implementation of an Event Transportation and Parking Management Plan before, during, and after each proposed new fireworks display event. Implementation of mitigation measure **MM-TRA-1** would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby reducing the potential for delay that might impede emergency response.

Harbor Police Department

Because the proposed new fireworks display events would occur within San Diego Bay along the National City and Chula Vista Bayfronts, other fire protection and emergency response services would be provided by HPD, which would deploy special patrol vessels to provide safety on the water. HPD currently provides marine firefighting services in and around San Diego Bay for the District. In addition to watercraft enforcement, HPD patrol boats can also serve as firefighting boats that respond to fire emergencies in the Bay. Consistent with its current operational practices during existing fireworks display events, HPD would continue to provide both of these services for fireworks display events, including the proposed new fireworks display events along the National City and Chula Vista Bayfronts. During existing Fourth of July fireworks display events, HPD increases personnel staffing in patrol versus normal personnel staffing in patrol, as necessary, thereby ensuring effective response times (Brick pers. comm.). Consistent with its current operational practices for existing Fourth of July fireworks display events, HPD would continue to increase personnel staffing, as necessary, for the fireworks display events, including the four proposed new fireworks display events along the National City and Chula Vista Bayfronts. Therefore, new or expanded facilities would not need to be constructed in order to maintain acceptable service

ratios, response times, or other performance objectives of HPD, and impacts would be less than significant.

Effects of the Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not include any conditions related to fire protection and emergency services and facilities above and beyond the federal, state, and local laws and regulations that currently exist. However, the proposed ordinance includes a condition of approval that requires implementation of an Event Transportation and Parking Management Plan for publicly advertised fireworks display events. The Event Transportation and Parking Management Plan would include transportation demand and parking management strategies, such as providing event traffic control and promoting the use of public transit. This would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby reducing the potential for delay that might impede emergency response. Compliance with the proposed ordinance may improve the existing condition by ensuring adequate circulation and fire and emergency access on the roadway network surrounding the existing fireworks display events. As such, the effects of the proposed ordinance on existing fireworks display events would not require the construction of new or expanded fire protection or emergency service facilities in order to maintain acceptable service ratios, response times, or other performance objectives. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services. Therefore, impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Proposed Ordinance Changes to Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 2: Police Protection—Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.

Impact Discussion

Police protection services for the proposed new fireworks display events would be provided by the National City Police Department, Chula Vista Police Department, and HPD.

The need for new or physically altered government facilities to maintain acceptable service ratios, response times, or other performance objectives for the National City Police Department, Chula Vista Police Department, and HPD would only potentially occur if the proposed new fireworks display events resulted in a permanent increase in population near viewing areas, which would potentially increase demand on police protection services of these agencies.

Proposed New Fireworks Display Events

As stated above in Threshold 1, the proposed new fireworks display events would be temporary and infrequent in nature and, therefore, would not require the construction of any permanent landside or waterside support facilities or residential structures that would create any long-term demand on public services. However, during these proposed new fireworks display events, increased public gatherings near viewing areas along the National City and Chula Vista Bayfronts would potentially increase demand on police protection and law enforcement services from the National City and Chula Vista Police Departments and HPD. Safety concerns related to the gathering of public in viewing areas could include fireworks display event management and response to safety or security issues.

National City Police Department

For the proposed new Fourth of July fireworks display event that would occur along the National City Bayfront, the National City Police Department would provide traffic coordination and public safety in the areas around the landside viewing locations in the City. As mentioned, the City requires Temporary Use Permits for special events, as well as a fireworks permit for any special event containing a fireworks display. As part of the Temporary Use Permit process, the City may attach any conditions and/or limitations to the permit deemed necessary to protect public health, safety, and welfare, including but not limited to security and traffic control. During special events, the National City Police Department implements an operational plan and a traffic plan to respond to any

emergencies. Additionally, deployment for a proposed new Fourth of July fireworks display event would not affect the Patrol Divisions due to overtime funding by the service organizations and the City's General Fund providing staffing for the event (Sullivan pers. comm.). Consistent with its current practice, the National City Police Department would implement an operational plan and a traffic plan during the proposed new Fourth of July fireworks display event in National City. Therefore, new or expanded police facilities would not need to be constructed in order to maintain acceptable service ratios, response times, or other performance objectives of the National City Police Department, and impacts would be less than significant.

Furthermore, as discussed in Section 4.10, *Transportation, Circulation, and Parking*, the implementation of mitigation measure **MM-TRA-1** requires compliance with the traffic-related conditions of the proposed ordinance, which require implementation of an Event Transportation and Parking Management Plan before, during, and after each proposed new fireworks display event. Implementation of mitigation measure **MM-TRA-1** would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby reducing the potential for delay that might impede police protection services and response.

Chula Vista Police Department

For both the proposed new Fourth of July and non-Fourth of July fireworks display events that would occur along the Chula Vista Bayfront, the Chula Vista Police Department would provide traffic coordination and public safety in the areas around the landside viewing locations in the City. During special events such as fireworks display events, additional City services may be allocated through the City's special event planning and permitting processes (Redmond pers. comm.). As mentioned, the City currently maintains Special Event Guidelines, which outline the Special Event Permit process, any additional special event-related permit types (i.e., a firework/pyrotechnic/special effect/laser permit), and any requirements for the special event, such as an operational plan. One of the types of operational plans that may be required as part of the Special Event Permit issued by the City is a transportation operational plan. The Chula Vista Police Department in conjunction with the City of Chula Vista Public Works/Traffic Engineering staff determines if a transportation operational plan is required. The transportation operational plan would require traffic control in order to facilitate vehicular, bicycle, and pedestrian movement on City streets and public rights-of-way that would potentially be affected by the event. All traffic control in the public right-of-way must be conducted by a representative of the police department or by a civilian who is certified in traffic control and authorized by the police department in conjunction with the City of Chula Vista Public Works/Traffic Engineering staff. The City's Special Event Guidelines also identify several other elements that should be included the transportation operational plan. These operational plans are developed for each special event application approval.

In accordance with the City's Special Event Guidelines, transportation operational plans specific to each proposed new fireworks display event would be implemented by the Chula Vista Police Department if deemed necessary; therefore, response times to the sites of these proposed new displays are not relevant as response units would be strategically assigned per each proposed new fireworks display event in order to maintain effective response. Therefore, new or expanded police facilities would not need to be constructed in order to maintain acceptable service ratios, response times, or other performance objectives, and impacts would be less than significant.

Furthermore, as discussed in Section 4.10, *Transportation, Circulation, and Parking*, the implementation of mitigation measure **MM-TRA-1** requires compliance with the traffic-related conditions of the proposed ordinance, which require implementation of an Event Transportation and Parking Management Plan before, during, and after each proposed new fireworks display event. Implementation of mitigation measure **MM-TRA-1** would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby reducing the potential for delay that might impede police protection services and response.

Harbor Police Department

HPD also provides police protection and law enforcement services in and around San Diego Bay for the District. HPD and special patrol vessels currently provide safety on the water during existing fireworks display events. For the proposed new fireworks display events that would occur along the National City and Chula Vista Bayfronts, it is anticipated that HPD would provide additional police protection services, which would involve deploying landside patrols and special patrol vessels to provide law enforcement on the water. HPD has indicated that it currently provides adequate law enforcement service and response times during individual existing fireworks display events through the strategic placement of units on tidelands and major patrol areas (Brick pers. comm.). Consistent with its current operational practices, HPD would continue to provide adequate law enforcement services and response times for fireworks display events, including the four proposed new fireworks display events along the National City and Chula Vista Bayfronts. In addition, HPD would implement traffic plans and plans for emergency response through an Emergency Operations guide for each proposed new fireworks display event (Brick pers. comm.). During existing Fourth of July fireworks display events, HPD increases personnel staffing in patrol versus normal personnel staffing in patrol, thereby ensuring effective response times (Brick pers. comm.). Consistent with its current operational practices, HPD would continue to increase personnel staffing as necessary during fireworks display events, including the proposed new fireworks display events along the National City and Chula Vista Bayfronts. Therefore, new or expanded HPD facilities would not need to be constructed in order to maintain acceptable service ratios, response times, or other performance objectives of HPD, and impacts would be less than significant.

Furthermore, as discussed in Section 4.10, *Transportation, Circulation, and Parking*, the implementation of mitigation measure **MM-TRA-1** requires compliance with the traffic-related conditions of the proposed ordinance, which require implementation of an Event Transportation and Parking Management Plan before, during, and after each proposed new fireworks display event. Implementation of mitigation measure **MM-TRA-1** would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby reducing the potential for delay that might impede police protection services and response.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. The proposed ordinance does not include any conditions related to police protection services and facilities above and beyond the federal, state, and local laws and regulations that currently exist. However, the proposed ordinance includes a condition of approval that requires implementation of an Event

Transportation and Parking Management Plan for publicly advertised fireworks display events. The Event Transportation and Parking Management Plan would include transportation demand and parking management strategies, such as providing event traffic control and promoting the use of public transit. This would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby reducing the potential for delay that might impede police protection services and response. Compliance with the proposed ordinance may improve the existing condition by ensuring adequate circulation and police access on the roadway network surrounding the existing fireworks display events. As such, the effects of the proposed ordinance on existing fireworks display events would not require the construction of new or expanded police protection services and facilities in order to maintain acceptable service ratios, response times, or other performance objectives. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. Therefore, impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation

Proposed New Fourth of July Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No impacts would occur.

Threshold 3: Other Public Facilities—Implementation of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for USCG protection services.

Impact Discussion

The only other public service provider for fireworks display events is USCG, which provides regulatory, enforcement, and public safety services. Therefore, this section focuses on the services provided by this agency.

The need for new or physically altered government facilities to maintain acceptable service ratios, response times, or other performance objectives for USCG would only potentially occur if the proposed new firework display events resulted in a permanent increase in population near viewing areas, which would potentially increase demand on USCG protection services. Safety concerns related to the gathering of public in viewing areas could include event management and response to hazards or security issues.

Proposed New Fireworks Display Events

For all fireworks display events that occur within San Diego Bay, event-specific regulatory and enforcement services within San Diego Bay are provided by USCG. USCG facilitates events that occur on federal waterways by receiving, analyzing, and reviewing Applications for Marine Event for each event. During the proposed new fireworks display events within San Diego Bay, USCG would enforce regulatory Safety Zones around the barge (to ensure public safety and clearance of the area) as well as enforce (as appropriate) the Navigation Rules (vessel transits, vessel lighting, vessel anchoring, etc.). During existing Fourth of July fireworks display events, USCG also increases staffing on the night of the events, with additional patrol units providing specific event command and control, and multiple active duty and auxiliary vessel assets. A “normal duty watch” is also provided, consisting of a command center, search and rescue and law enforcement vessels, and search and rescue aircraft (Cole pers. comm.). Consistent with its current operational practices during existing Fourth of July fireworks display events, USCG would continue to increase personnel staffing and patrol units as necessary during fireworks display events, including the proposed new Fourth of July fireworks display events along the National City and Chula Vista Bayfronts.

During the proposed new fireworks display events within San Diego Bay, USCG would also coordinate with HPD on the position and location of personnel and assets. This coordination with HPD is in addition to USCG’s normal requirements and duties for operations related to safety and security within its area of responsibility. USCG would maintain acceptable service ratios, response times, and applicable performance objectives for each proposed new fireworks display event. Therefore, new or expanded USCG facilities would not need to be constructed in order to maintain acceptable service ratios, response times, or other performance objectives, and impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not include any conditions pertaining to other public services and facilities, such as USCG, above and beyond the federal, state, and local laws and regulations that currently exist and, therefore, would not result in any change to the existing condition in terms of these services. As such, the effects of the proposed ordinance on existing fireworks display events would not require the construction of new or expanded USCG facilities in order to maintain acceptable service ratios, response times, or other performance objectives. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation**Proposed New Fireworks Display Events**

The proposed new fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for USCG protection services. Therefore, impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for USCG protection services. Therefore, no significant adverse impacts would occur.

Mitigation Measures**Proposed New Fireworks Display Events**

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance After Mitigation**Proposed New Fireworks Display Events**

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Section 4.10

Transportation, Circulation, and Parking

4.10.1 Overview

This section describes the existing conditions and applicable laws and regulations for transportation, circulation, and parking, followed by an analysis of the proposed project's potential to (1) conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system; (2) conflict with a county congestion management plan by exceeding a level-of-service (LOS) standard; (3) result in inadequate emergency access; (4) conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities; or (5) result in an insufficient supply of parking to meet the project demand. All other potential transportation, circulation, and parking issues, including changes in air traffic patterns and substantially increasing hazards due to a design feature, were analyzed in Section XVI of the Initial Study/Environmental Checklist (Appendix A), which is incorporated by reference, and potential impacts were determined to be less than significant. The analysis and conclusions regarding these impacts are also summarized in Chapter 6, Section 6.4, *Effects Not Found to be Significant*.

The information provided in this section is summarized from the *San Diego Bay and Imperial Beach Oceanfront Fireworks Display Event EIR Transportation Assessment* prepared by Chen Ryan Associates in March 2017 (Appendix J). Table 4.10-1 summarizes the significant impacts and mitigation measures discussed in Section 4.10.4, *Project Impact Analysis*.

Table 4.10-1. Summary of Significant Transportation Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
<p>Impact-TRA-1: Decrease in the Performance of Roadway, Pedestrian, and Bicycle Facilities from Proposed New Fireworks Display Events.</p>	<p>MM-TRA-1: Implementation of the Transportation-Related Conditions of the Proposed Ordinance, require the implementation of an Event Transportation and Parking Management Plan and compliance with other required permits</p>	<p>Significant and Unavoidable</p>	<p>The proposed ordinance includes a condition of approval that would require implementation of an Event Transportation and Parking Management Plan and compliance with other required permits, which would improve the performance of roadway, pedestrian, and bicycle facilities by facilitating the movement of vehicular, pedestrian, and bicycle traffic; however, there are no metrics or tools available to quantify the effectiveness of the Event Transportation and Parking Management Plan in reducing congestion. Because the extent to which impacts would be reduced cannot be quantified, it cannot be determined with certainty that the impacts would be reduced to less-than-significant levels.</p>

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
<p>Impact-TRA-2: Inadequate Parking Supply During Proposed New Fireworks Display Events.</p>	<p>Implement MM-TRA-1</p>	<p>Significant and Unavoidable</p>	<p>The proposed ordinance includes a condition of approval that would require implementation of an Event Transportation and Parking Management Plan and compliance with other required permits, which would reduce potential parking impacts; however, there are no metrics or tools available to quantify the effectiveness of the Event Transportation and Parking Management Plan in reducing parking impacts. Because the extent to which impacts would be reduced cannot be quantified, it cannot be determined with certainty that the impacts would be reduced to less-than-significant levels.</p>

4.10.2 Existing Conditions

The proposed project includes up to four proposed new fireworks display events in San Diego Bay along the Chula Vista Bayfront and National City Bayfront. These proposed new fireworks display events include three displays along the Chula Vista Bayfront allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, as well as one Fourth of July display along the National City Bayfront. The three proposed fireworks display events along the Chula Vista Bayfront include one Fourth of July display and two non-Fourth of July displays. Accordingly, the existing conditions discussion that follows is separated by each of these locations.

4.10.2.1 Study Area

Fireworks display events are unique in that there are numerous locations that attract vehicular traffic and multi-modal trips, as these events typically have a regional area of influence and can be viewed from various vantage points. The proposed new fireworks display events have the potential to affect transportation and circulation on the streets and intersections in the vicinity of the

proposed new displays, as well as the freeway facilities serving the fireworks display event viewing locations. The potential effects of the proposed new fireworks display events on parking facilities were also considered. The discussion below is separated by the location of the proposed new fireworks display events and identifies the key roadway corridors and their associated characteristics, as well as bicycle and transit connectivity within the study area for each location.

National City Bayfront

Roadway Corridors

There are three roadway corridors within the National City Bayfront study area that would provide access to the fireworks display event viewing areas along the Bayfront. Each of these corridors is described below. The descriptions provide a general understanding of the local roadway corridors and identify the existing setting for the roadway segment analysis presented in this section. Figure 4.10-1 depicts the traffic study area for the National City Bayfront.

Bay Marina Drive

Within the National City Bayfront study area, Bay Marina Drive has the following characteristics:

- Interstate (I-) 5 southbound ramps to Cleveland Avenue: four-lane roadway with a striped median and a posted speed limit of 30 miles per hour (mph).
- Cleveland Avenue to Marina Way: four-lane undivided roadway with a speed limit of 30 mph.
- Marina Way to Haffley Avenue: four-lane roadway, alternating between undivided and with a striped median, with a posted speed limit of 30 mph.
- Haffley Avenue to Tidelands Avenue: four-lane roadway, alternating between undivided and with a striped median, with a speed limit of 30 mph.
- Tidelands Avenue to Quay Avenue: four-lane undivided roadway with a speed limit of 30 mph.
- Quay Avenue to end: four-lane roadway with a striped median and speed limit of 30 mph.

Paved widths along Bay Marina Drive range from 64 to 85 feet. On-street parking is intermittently permitted west of Haffley Avenue. Sidewalks are generally present, with gaps along the south side of the roadway between the I-5 southbound ramps and Cleveland Avenue, along the south side of the roadway west of Tidelands Avenue, and along the north side of the roadway west of Quay Avenue.

Tidelands Avenue

Within the National City Bayfront study area, Tidelands Avenue has the following characteristics:

- Bay Marina Drive to W 28th Street: two-lane undivided roadway with a speed limit of 35 mph.
- W 28th Street to W 32nd Street: two-lane roadway, alternating between undivided and with a striped median, with a posted speed limit of 35 mph.
- W 32nd Street to end (Goesno Place): two-lane undivided roadway with a speed limit of 35 mph.

Paved widths along Tidelands Avenue range from 38 to 60 feet. On-street parking is permitted between Bay Marina Drive and W 32nd Street. Sidewalks are present along the east side of the roadway only.



Legend

- National City Bayfront Launch Site
- Study Area Roadways

N

0 0.1 0.2

Miles

Source: Bing (2014)



Marina Way

Within the National City Bayfront study area, Marina Way is a two-lane roadway, with a median alternating between raised and striped, with additional undivided segments. There is no posted speed limit. Paved widths along Marina Way range from 24 to 50 feet. On-street parking is permitted along the southern portion of the roadway, where the roadway widens to accommodate parked cars. Sidewalks are present along the east side of the roadway only.

Bicycle Connectivity

Class II bicycle lanes are present along Bay Marina Drive east of the railroad tracks near Marina Way.

Transit Connectivity

Although no transit routes directly serve the National City Bayfront study area, the nearby 24th Street Transit Station east of I-5 is anticipated to provide access to the fireworks display event viewing areas along the Bayfront. This station is served by the Blue Line of the San Diego Trolley, which provides connectivity between the San Ysidro border crossing and America Plaza in Downtown San Diego. The San Diego Trolley and the Blue Line are discussed further below. The 24th Street Transit Station also provides bus connections to the following routes:

- Route 13, which runs between the 24th Street Station and Kaiser Hospital in the Grantville community of San Diego.
- Route 961, which runs between the 24th Street Station and the Encanto/62nd Street Trolley Station.
- Route 967, which runs between the 24th Street Station and the community of Paradise Hills.
- Route 968, which runs between the 24th Street Station and the community of Paradise Hills.

Chula Vista Bayfront

Roadway Corridors

There are eight roadway corridors within the Chula Vista Bayfront study area that would provide access to the fireworks display event viewing areas along the Bayfront. Each of these corridors is described below. The descriptions provide a general understanding of the local roadway corridors and identify the existing setting for the roadway segment analysis presented in this section. Figure 4.10-2 depicts the traffic study area for the Chula Vista Bayfront.

E Street

Within the Chula Vista Bayfront study area, E Street has the following characteristics:

- I-5 to Bay Boulevard/Living Coast Discovery Center: four-lane roadway with raised median and no posted speed limit.

Paved widths along E Street range from 75 to 100 feet. On-street parking is not permitted. Sidewalks are present along the south side of the roadway only.

Bay Boulevard

Within the Chula Vista Bayfront study area, Bay Boulevard has the following characteristics:

- E Street to F Street: two-lane undivided roadway with a posted speed limit of 35 mph.
- F Street to G Street: two-lane undivided roadway with a posted speed limit of 35 mph.
- G Street to H Street: two-lane undivided roadway with a posted speed limit of 35 mph.

Paved widths along Bay Boulevard range from 35 to 38 feet. On-street parking is not permitted. Sidewalks are present along the east side of the roadway between E Street and F Street, are intermittently present along the west side of the roadway between F Street and G Street, and are present along the west side of the roadway between G Street and H Street.

F Street/Lagoon Drive

Within the Chula Vista Bayfront study area, F Street/Lagoon Drive has the following characteristics:

- Bay Boulevard to Marina Parkway: two- to four-lane roadway with a median alternating between raised and undivided sections and a posted speed limit of 35 mph.

Paved widths along F Street/Lagoon Drive range from 26 to 74 feet. On-street parking is not permitted. Sidewalks are intermittently present along both sides of the road; however, gaps exist along the western portion of the roadway, as well as along the south side of the roadway between Bay Boulevard and the railroad tracks.

G Street

Within the Chula Vista Bayfront study area, G Street has the following characteristics:

- Bay Boulevard to Marina Parkway: two- to four-lane undivided roadway with no posted speed limit.
- Marina Parkway to Sandpiper Way: two-lane undivided roadway with no posted speed limit.
- Sandpiper Way to Quay Avenue: two-lane undivided roadway with no posted speed limit.
- Quay Avenue to end: two-lane undivided roadway with no posted speed limit.

Paved widths along G Street range from 50 to 52 feet. On-street parking is permitted west of Marina Parkway. Sidewalks are present between Bay Boulevard and the railroad tracks, as well as west of Marina Parkway along the north side of the roadway.

H Street

Within the Chula Vista Bayfront study area, H Street has the following characteristics:

- Bay Boulevard to Marina Parkway: three-lane roadway (one eastbound, two westbound), with a center left-turn lane and no posted speed limit.

Paved widths along H Street range from 58 to 72 feet. On-street parking is not permitted. Sidewalks are present along both sides of the roadway.

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Legend

- Chula Vista Bayfront Launch Site
- Study Area Roadways

N

0 0.225 0.45

Miles

Source: Bing (2014)



J Street

Within the Chula Vista Bayfront study area, J Street has the following characteristics:

- I-5 northbound to Bay Boulevard: five-lane roadway (three eastbound, two westbound), with a painted median and a posted speed limit of 30 mph.

Paved widths along J Street range from 80 to 96 feet. On-street parking is not permitted. Sidewalks are present along both sides of the roadway between the I-5 northbound and southbound ramps, while sidewalks are only present on the south side of the roadway between the I-5 southbound ramp and Bay Boulevard.

Marina Parkway (Northern Section)

Marina Parkway is a discontinuous roadway, with two distinct sections. Within the Chula Vista Bayfront study area, Marina Parkway has the following characteristics:

- Sandpiper Way to H Street: two-lane roadway with a striped median and no posted speed limit.
- G Street to F Street: two-lane undivided roadway with no posted speed limit.

Paved widths along Marina Parkway range between 33 and 66 feet. On-street parking is not permitted. Sidewalks are present along the east side of the roadway between Sandpiper Way and H Street only.

Sandpiper Way

Within the Chula Vista Bayfront study area, Sandpiper Way has the following characteristics:

- Marina Parkway to Bayside Parkway: two-lane undivided roadway with a posted speed limit of 25 mph.
- Bayside Parkway to G Street: two-lane undivided roadway with a posted speed limit of 25 mph.

The paved width along Sandpiper Way is 47 feet. On-street parking is permitted along both sides of the roadway. Sidewalks are present along the south/west side of the roadway between Marina Parkway and Bayside Parkway only.

Bicycle Connectivity

Within the Chula Vista Bayfront study area, Class I multi-use paths are present adjacent to H Street, as well as parallel to the railroad tracks between Marina Parkway and H Street (the Bayshore Bikeway), and along the Bayfront between Marina parkway and G Street. Class II Bike lanes are present along Bay Boulevard, F Street/Lagoon Drive, Marina Parkway, and Sandpiper Way. Class III bike routes are present along F Street and H Street, providing connectivity to points east of I-5.

Transit Connectivity

Although no transit routes directly serve the Chula Vista Bayfront study area, the nearby E Street and H Street Transit Stations east of I-5 are anticipated to provide access to the fireworks display event viewing areas along the Bayfront. Both of these stations are served by the Blue Line of the San Diego Trolley, which provides connectivity between the San Ysidro border crossing and America

Plaza in Downtown San Diego. The San Diego Trolley and the Blue Line are discussed further below. The E Street and H Street Transit Stations also provide bus connections to the following routes:

- Route 701, which runs between the H Street Station and the Palomar Street Transit Center in Chula Vista.
- Route 703, which runs between the H Street Station in Chula Vista and Otay Ranch Town Center in Otay Mesa.
- Route 704, which runs between the E Street Station and the Palomar Street Transit Center in Chula Vista.
- Route 705, which runs between the E Street Station and the Southwestern College Transit Center in eastern Chula Vista.
- Route 709, which runs between the H Street Station in Chula Vista and Otay Ranch Town Center in Otay Mesa.
- Route 932, which runs between the 8th Street Transit Center in National City and the Irish Avenue Transit Center in Otay Mesa.

San Diego Trolley

The San Diego Trolley provides regional public transportation to several areas along the San Diego Bay, including those areas that could potentially serve as viewing locations for the proposed fireworks display events within the Bay. The San Diego Trolley serves over 32 million annual passengers, with an average weekday ridership of 97,401 (MTS 2013). Each train consists of between one and four cars depending on need. Each car can hold between 96 and 104 passengers during commute times and up to 200 passengers during special events (referred to as *crush load*). This equates to between 384 passengers and up to 800 passengers during special events. As an average, it is assumed each train typically has three cars and operates at car commute capacity, or approximately 300 passengers per rush hour train.

Blue Line

The Metropolitan Transit System (MTS) Blue Line was the first light-rail line constructed in San Diego and was the start of the MTS Trolley System. In operation since 1981, the Blue Line began with service between downtown San Diego and the San Ysidro Port-of-Entry. Blue Line service has been expanded four times since its inception and now provides service between the San Ysidro Port-of-Entry to the south and the Old Town Transit Center to the north. In all, it services 15.4 miles and includes 18 stations.

The Blue Line currently runs at 7- to 8- minute headways during peak periods and 15-minute headways in off-peak periods. Existing ridership along the Blue Line is estimated at 145 and 151 passengers per train during the AM and PM peak hours, respectively, or about half of the current capacity of 300 passengers per train. Along the San Diego Bay, the Blue Line stops at the 12th and Imperial, Barrio Logan, Harborside, Pacific Fleet, 8th Street, 24th Street, E Street, H Street, Palomar Street, and Palm Avenue Stations. However, it is anticipated that only the 24th Street Station in National City and the E Street and H Street Stations in Chula Vista would provide access to the viewing areas for the proposed new fireworks display events due to their proximity to the Bayfronts.

4.10.3 Applicable Laws and Regulations

4.10.3.1 State

California Department of Transportation

The California Department of Transportation (Caltrans) has jurisdiction over the state highway system and is divided into 12 districts. Caltrans establishes acceptable freeway and on- and off-ramp operations based on the Transportation Research Board's *Highway Capacity Manual 2010* (Transportation Research Board 2010).

Signalized intersections at freeway ramps are required to be analyzed using intersection lane volume (ILV) procedures as described in Topic 406 of the *Highway Design Manual* (Caltrans 2015). This methodology is based on an assessment of each intersection as an isolated unit, without consideration of the effects from adjacent intersections. For this reason, the ILV analysis is used to provide additional validation of signalized ramp intersection operations derived from the *Highway Capacity Manual 2010* methodology.

4.10.3.2 Regional

San Diego Association of Government's San Diego Forward: The Regional Plan

San Diego Forward: The Regional Plan (Regional Plan) was adopted by the San Diego Association of Governments (SANDAG) Board of Directors on October 9, 2015, to establish a long-range blueprint for the San Diego region's growth and development through the year 2050. The Regional Plan was developed in close partnership with the region's 18 cities and the County government, and aims to provide innovative mobility choices and planning to support a sustainable and healthy region, a vibrant economy, and an outstanding quality of life for all. The Regional Plan integrates both the 2004 Regional Comprehensive Plan and the 2050 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) into one unified plan. By incorporating the SCS, the Regional Plan is in compliance with Senate Bill 375, which identifies how the region will address greenhouse gas emissions to meet state-mandated levels and focuses on land use planning and transportation issues in an attempt to develop sustainable growth patterns on a regional level.

California State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP). The requirements within the state CMP were developed to monitor the performance of the transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. SANDAG provided regular updates for the state CMP from 1991 through 2008. In October 2009, the San Diego region elected to be exempt from the state CMP, and, since this decision, SANDAG has been abiding by 23 Code of Federal Regulations (CFR) 450.320 to ensure the region's continued compliance with the federal congestion management process. The Regional Plan is the region's long-range transportation plan and SCS, and meets the requirements of 23 CFR 450.320 by incorporating the following federal congestion management process: performance monitoring and measurement of the regional transportation system, multimodal alternatives and non-single occupant vehicle analysis, land use impact analysis, the provision of

congestion management tools, and integration with the regional transportation improvement program process.

Riding to 2050, the San Diego Regional Bike Plan

The San Diego Regional Bike Plan (SANDAG 2010) was developed to support the 2004 Regional Comprehensive Plan and the 2050 RTP in implementing the regional strategy for utilizing the bicycle as a valid form of everyday travel. The bike plan, as a part of the SCS mandated by Senate Bill 375, provides for a detailed Regional Bike Network, as well as the programs that are necessary to support it. Implementation of the Regional Bike Plan would help the region meet goals for reducing greenhouse gas emissions and improve mobility.

4.10.3.3 Local

Both existing and proposed new fireworks display events occur within and/or adjacent to the land use jurisdiction of the District. Accordingly, because the streets and intersections serving the viewing sites are within the jurisdiction of some of the District's member cities, the following local laws, regulations, and plans were taken into account in the analysis of the proposed project's impacts on transportation, circulation, and parking.

City of National City

SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region

The City of National City utilizes the San Diego Traffic Engineers' Council (SANTEC) and the Institute of Transportation Engineers (ITE) *Guidelines for Traffic Impact Studies* (SANTEC/ITE 2002). The primary documents used to help prepare these guidelines were SANDAG's CMP and *Traffic Generators Manual*, the City of San Diego's *Traffic Impact Study Manual* and *Trip Generation Manual*, and Caltrans' *Draft Guide for the Preparation of Traffic Impact Studies*. The SANTEC/ITE guidelines were prepared to assist local agencies throughout the San Diego region in promoting consistency and uniformity in traffic impact studies. The guidelines provide thresholds for acceptable roadway and intersection operations and further guidance on internal review processes to aid consultants in traffic study preparation.

City of National City Bicycle Master Plan

The National City Bicycle Master Plan (City of National City n.d.) presents a new vision for bicycle transportation, recreation, sustainability, and quality of life in National City. The Bicycle Master Plan recommends various improvements based on public input, best practices, and analysis of existing conditions and future opportunities. The recommended improvements include bikeway network facilities, treatments at intersections and other spot locations, and bicycle support facilities. The improved facilities outlined in the plan will help to make bicycling an effective transportation option throughout National City. In addition, the Bicycle Master Plan includes design guidelines and bicycle program recommendations, and identifies funding sources for bicycle projects and programs.

City of National City Special Event Guidebook

The City of National City's Special Event Guidebook (City of National City n.d.) outlines the special event permitting process and provides information, rules, and regulations for special events in the City. Any event that takes place in a park or on a street under the jurisdiction of the City and is open to the general public is considered a "public special event." Temporary Use Permits, also considered special event permits, are used for certain special activities, events, or structures that are beneficial to the public for limited periods of time even though they would not comply with building, fire, zoning, or other local codes, if they were permanent. In general, for any organized activity that uses public property, facilities, parks, sidewalks, streets, or any public rights-of-way, applicants need to obtain this permit. Temporary Use Permits include submittal of information such as staging required, roadways used and/or closed for the event, times, and other information. The City of National City may also attach any conditions and/or limitations deemed necessary to protect public health, safety, and welfare, including but not limited to traffic control. The City of National City's Special Event Guidebook also identifies any supplemental permits and provisions that are required in addition to the Temporary Use Permit. A fireworks permit is one of the supplemental permits identified in the Special Event Guidebook, which must be obtained from the National City Fire Department.

City of Chula Vista

Guidelines for Traffic Impact Studies in the City of Chula Vista

In May 2000, the City of the Chula Vista initiated an effort to establish written guidelines for identification of project impacts in EIRs. The City of San Diego and SANTEC/ITE standards were used to reevaluate several recently completed studies in the City of Chula Vista to determine potential changes in the identification of project impacts. The guidelines provide guidance for determining the need and scope of traffic studies, as well as identifying impacts. In conformance with the requirements of the CMP, an analysis of CMP freeways and arterials is required for any project that generates 2,400 daily or 200 peak hour trips. A traffic study may also be required based on direction provided by the City Engineer and the Environmental Review Coordinator. The guidelines provide significance criteria for acceptable roadway, intersection, and freeway operations that are used to determine a project's specific or cumulative impacts on these facilities.

City of Chula Vista Bikeway Master Plan

The City of Chula Vista developed its first Bikeway Master Plan in 1996 (City of Chula Vista 1996). The 1996 plan established the types of bikeway facilities that should be implemented within the City of Chula Vista and identified the need to integrate with the existing system of regional bikeways in the San Diego metropolitan area. The original plan was replaced by one prepared and adopted in January 2005 (City of Chula Vista 2005). The 2005 plan included documenting and evaluating Chula Vista's existing bikeway facility system and its relationship with other systems such as public transit and recommending improvements wherever appropriate. The 2005 plan incorporated expected General Plan changes that would affect circulation patterns. The current 2011 Bikeway Master Plan (City of Chula Vista 2011) is an update of the 2005 Bikeway Master Plan, and is intended to fulfill project scope requirements and maintain City of Chula Vista compliance with California Streets and Highways Code, Section 891.2 requirements for bicycle transportation plans. The 2011 update was

prepared to ensure that Chula Vista's 2005 General Plan changes affecting bicycle transportation are accommodated in a timely manner.

City of Chula Vista Pedestrian Master Plan

The City of Chula Vista Pedestrian Master Plan (City of Chula Vista 2010) presents a long-range vision that will guide the development of Chula Vista's pedestrian facilities over the next 20 years. The plan was developed under the guidance of City of Chula Vista staff and with the advice of a citizen-based Project Working Group. Public input was also gathered through community meetings, a survey, a website, coordination with other City of Chula Vista outreach efforts, and four public workshops. The Pedestrian Master Plan identifies infrastructure improvements to improve pedestrian safety, connectivity, and access to high-demand locations throughout Chula Vista. Recommendations intended for citywide application include installation of missing sidewalk and missing curb ramps. The plan also presents conceptual designs for 30 high-priority pedestrian improvement projects. Furthermore, the Pedestrian Master Plan recommends education, encouragement, and enforcement programs and identifies deficiencies surrounding Chula Vista elementary schools and recommendations for Safe Routes to School initiatives.

City of Chula Vista Special Event Guidelines

The City of Chula Vista Special Event Guidelines (City of Chula Vista n.d.) outline the Special Event Permit process and any special event-related permit types, as well as the requirements for event infrastructure, operational plans (e.g., medical, traffic control), community outreach, and insurance. Examples of special event-related permits include alcohol use permits, building permits (for temporary structures), and a firework/pyrotechnic/special effect/laser permit. The proposed event venue, activities, components, attendance, and unique circumstance of the event are contributing factors to the final determination of the required permit types. As outlined in the City's Special Event Guidelines, the Chula Vista Police Department in conjunction with Chula Vista Public Works/Traffic Engineering staff determines if the special event requires traffic control in order to facilitate vehicular, bicycle, and pedestrian movement on City streets and public rights-of-way potentially affected by the special event. The following guidelines are recommended to be incorporated into the transportation operational plan:

- All traffic control in the public right-of-way must be conducted by a representative of the police department or by a civilian who is certified in traffic control and authorized by the police department in conjunction with City of Chula Vista Public Works/Traffic Engineering staff.
- All proposed street closures must be included in the permit application and be authorized by the police department in conjunction with City of Chula Vista Public Works/Traffic Engineering staff.
- If the event includes a plan to implement a shuttle plan to support the event needs, approval of the property owner is required for use of the property in the transportation plan. If approval to use the property is authorized by a property manager, the authorization letter must indicate that the property manager is authorized to approve the use on behalf of the property owner.
- The City of Chula Vista will evaluate the shuttle stops and proposed transportation routes as part of its overall evaluation of the event plans.

- Any taxi/limo drop-off/pick-up zones should be coordinated with the Chula Vista Police Department.
- Accessible parking and/or access must be included in the event plans.
- If the event involves street closures, traffic/safety equipment for the safe closure of the venue must be obtained and proper detour and parking information must be posted.
- If the event will alter or affect the flow of traffic (vehicle, bicycle, and/or pedestrian) on public streets, traffic control plans may be required.

City of Imperial Beach

The City of Imperial Beach is included because the Fourth of July Imperial Beach Fireworks Show was selected as the sample Fourth of July fireworks display event because it is similar in magnitude (i.e., pounds of fireworks and number of launch sites) and duration as the proposed new Fourth of July fireworks display events.

SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region

The City of Imperial Beach also utilizes the SANTEC/ITE *Guidelines for Traffic Impact Studies* (SANTEC/ITE 2002), which provide thresholds for acceptable roadway and intersection operations and further guidance on internal review processes to aid consultants in traffic study preparation. These guidelines are described above under the City of National City.

City of Imperial Beach Bicycle Transportation Plan

The City of Imperial Beach Bicycle Transportation Plan (City of Imperial Beach 2008) was prepared as a comprehensive update to the 1994 City of Imperial Beach General Plan and Coastal Plan's Circulation Element to better address not only local bicycle travel needs, but also to better serve regional long-distance travel and promote eco-tourism. The Bicycle Transportation Plan objectives include establishing facility types to be implemented and identifying points where the City of Imperial Beach's bikeway system could integrate with the existing San Diego metropolitan regional bikeway system. The plan's scope included documenting and evaluating Imperial Beach's existing bikeway facility system and its relationship to other systems such as mass transit, and recommending improvements wherever appropriate.

4.10.4 Project Impact Analysis

4.10.4.1 Methodology

Potential transportation and circulation impacts associated with the proposed project are summarized below based on the thresholds provided in Appendix G of the State CEQA Guidelines. Fireworks display events are unique and differ from a typical development project in various aspects. Firstly, fireworks display events are unique because they generally occur in the evening hours and are very short in duration. Fireworks display events are also unique in that there are a number of locations that attract vehicular traffic and multi-modal trips, as these events typically have a regional area of influence and can be viewed from various vantage points. Fourth of July

fireworks display events in particular are intended to entertain viewers in various locations, rather than only at the location of the launch site. Non-Fourth of July fireworks display events differ in that they are intended for a more limited audience attending a specific event, and viewers are generally located at or near the launch site. Because fireworks display events are typically coupled with other events (such as the Fourth of July holiday or a private event) that can also influence transportation patterns and trip generation, it is difficult to determine the changes in travel patterns that are directly associated with the fireworks display events themselves. Consequently, specific travel-related impacts cannot be assessed through a conventional traffic impact analysis approach, which would include intersection and roadway LOS analyses. Rather, the impact analysis below focuses on how transportation and parking demands would change during the proposed new fireworks display events, and how these changes potentially affect the efficiency of the surrounding transportation network.

To understand and identify the potential travel- and parking-related changes associated with both the proposed new Fourth of July and non-Fourth of July fireworks display events along the National City and Chula Vista Bayfronts, a sampling of data was collected during the Fourth of July Imperial Beach Fireworks Show (July 4, 2015) and the End of WWII 70th Anniversary (August 15, 2015), which was a public event held at the U.S.S. Midway Museum that included an approximately 10-minute fireworks display from the flight deck. For both sample events, data were collected for multiple modes of transportation and included vehicle, pedestrian, and bicycle counts. For the sample Fourth of July fireworks display event, the Fourth of July Imperial Beach Fireworks Show was selected because it is similar in magnitude (i.e., pounds of fireworks and number of launch sites) and duration as the proposed new Fourth of July fireworks display events. For the sample non-Fourth of July fireworks display event, the End of WWII 70th Anniversary was selected because it was a publicly advertised fireworks show that was open to the public, and therefore is representative of the proposed new non-Fourth of July fireworks display events in regard to transportation, circulation, and parking. The travel-related data from both sample fireworks display events were then compared to a typical Saturday (non-event, August 22, 2015) to determine changes in travel patterns and parking demands associated with both Fourth of July and non-Fourth of July fireworks display event types, and to identify where congestion, conflicts between the various modes of travel, and excess parking demand were observed.

The magnitude of travel- and parking-related changes observed during these sample fireworks display events were then correlated to the potential locations of the proposed new fireworks display events to qualitatively identify potential transportation and parking-related impacts associated with the proposed new fireworks display events.

Methodology for Data Collection Efforts

Fourth of July Imperial Beach Fireworks Show

Daily roadway segment counts were collected on the main roadways providing access to the viewing areas for the sample Fourth of July fireworks display event. Vehicular count data were collected at three key roadway segments accessing or adjacent to the event location. Key study roadway segments were selected based on a review of the roadway network surrounding the event and the level of access they provide to the event. Vehicular roadway counts were conducted during the entire day, midnight to midnight, and provide an hour-by-hour count of vehicular traffic entering and exiting the event location.

Vehicular, pedestrian, bicycle counts were also collected at key intersection locations providing access to the viewing areas for the sample Fourth of July fireworks display event. Three key study intersections were identified that provide access to the event. The study intersections provide key connections between the event location and the adjacent neighborhoods, as they are anticipated to have the highest vehicular, pedestrian, and bicyclist activity on event days. Because this analysis focuses on changes in travel patterns across multiple modes of transportation, only intersections with pedestrian and bicycle crossings that provide the main pedestrian and bicycle access points for the associated viewing areas were selected. Intersection counts were conducted between 7:00 p.m. and 11:00 p.m. to document the vehicular, pedestrian, and bicycle activity around the viewing areas before, during, and after the event.

In addition to roadway segment and intersection counts, parking occupancy counts were conducted at four parking facilities. Parking facilities that either directly serve or are within a quarter of a mile of the event location were counted during the afternoon and evening (at 1:00 p.m., 3:00 p.m., 5:00 p.m., and 7:00 p.m.) to determine whether and when they reached capacity.

A list of the key roadway segments, intersections, and parking facilities is provided in Table 4.10-2.

Table 4.10-2. Sample Fourth of July Imperial Beach Fireworks Show: Transportation Data Collection

Viewing Location	Roadway Segments	Intersections	Parking Facilities
Imperial Beach Oceanfront	<ul style="list-style-type: none"> ● Palm Avenue between 7th Avenue and Rainbow Drive ● Imperial Beach Boulevard between Connecticut Street and 4th Street ● Seacoast Drive between Elkwood Avenue and Daisy Avenue 	<ul style="list-style-type: none"> ● Palm Avenue and Seacoast Drive ● Evergreen Avenue and Seacoast Drive ● Imperial Beach Boulevard and Seacoast Drive 	<ul style="list-style-type: none"> ● Daisy Avenue Parking Lot ● Elm Avenue Parking Lot ● Seacoast Drive Parking Lot ● Imperial Beach Boulevard Parking Lot

Source: Appendix J

Freeway segment count data for State Route 75 and I-5 were not available from the Caltrans Performance Measurement System (PeMS) database for the Imperial Beach area. However, because of the regional nature of Fourth of July fireworks display events, Fourth of July data for the freeway segments that provide regional access to San Diego Bay and the Imperial Beach Oceanfront could be used to correlate potential project-related freeway traffic volumes, as similar volumes could be expected on the freeways that would provide access to the National City and Chula Vista Bayfronts. As such, freeway segment counts were obtained from the Caltrans PeMS database for segments of I-8 and I-5, each of which provide regional access to San Diego Bay. Four key freeway mainline segments were identified and studied.

- I-8 between Sports Arena Boulevard and I-5 Junction
- I-8 between I-5 Junction and Hotel Circle
- I-5 between Washington Street and Sassafras Street

- I-5 between Sassafras Street and Front Street

End of WWII 70th Anniversary Event

Daily roadway segment counts were collected on the main roadways providing access to the viewing areas for the sample other non-Fourth of July fireworks display event. Vehicular count data were collected at five key roadway segments across the two areas adjacent to the event location within the North Embarcadero, Central Embarcadero (Seaport Village), and South Embarcadero. Key study roadway segments were selected based on a review of the roadway network surrounding the event and the level of access to the event site provided by the roadway. Vehicular roadway counts were conducted during the entire day, midnight to midnight, and provide an hour-by-hour summary of vehicular traffic entering and exiting the event location.

Pedestrian and bicycle counts were also collected at key intersection locations providing access to the viewing areas for the sample other non-Fourth of July fireworks display event. Because this analysis focuses on changes in travel patterns across multiple modes of transportation, only intersections with pedestrian and bicycle crossings that provide the main pedestrian and bicycle access points for the associated viewing areas were selected. Two key study intersections providing access to the event were identified within the North Embarcadero area. This is because it was assumed that patrons coming to and from this event would park either in Seaport Village or on the G Street Mole and would use the Embarcadero to access the event site at the U.S.S. Midway Museum. Intersection counts were conducted between 5:00 p.m. and 7:00 p.m. and between 9:00 p.m. and 11:00 p.m. to document the vehicular, pedestrian, and bicycle activity around the viewing areas before, during, and after the event.

In addition to roadway segment and intersection counts, parking occupancy counts were conducted at six parking facilities. Parking facilities that either directly serve or are within a quarter of a mile of the event location were counted through the day (between 1:00 p.m. and 8:00 p.m.) to determine whether and when they reached capacity. Parking occupancy data were also obtained from the parking management companies who operate the paid public parking facilities in the area surrounding the sample other non-Fourth of July display.

A list of the key roadway segments, intersections, and parking facilities is provided in Table 4.10-3.

Table 4.10-3. Sample End of WWII 70th Anniversary Event: Transportation Data Collection

Viewing Location	Roadway Segments	Intersections	Parking Facilities
North Embarcadero	<ul style="list-style-type: none"> Harbor Drive between Ash Street and Broadway Harbor Drive between Broadway and G Street Broadway between Harbor Drive and Pacific Highway 	<ul style="list-style-type: none"> Harbor Drive and Broadway (Embarcadero) Harbor Drive and Tuna Lane 	<ul style="list-style-type: none"> Harbor Drive Surface Parking Lot (in front of Solar Turbines) Harbor Drive Surface Parking Lot (in front of County Administration Center) Navy Pier Parking Lot G Street Pier Parking Lot
Central and South Embarcadero	<ul style="list-style-type: none"> Harbor Drive between G Street and Pacific Highway Harbor Drive between Kettner Boulevard and Market Street 	None	<ul style="list-style-type: none"> Seaport Village Embarcadero Parking Lot Convention Center Parking Lot

Source: Appendix J

Key study freeway segments were identified along I-5 that provide regional access to the sample other non-Fourth of July fireworks display event viewing areas. Freeway segment counts were obtained from the Caltrans PeMS database. Two key freeway mainline segments were identified and studied for the sample other non-Fourth of July fireworks display event.

- I-5 between Washington Street and Sassafras Street
- I-5 between Sassafras Street and Front Street

Roadway Segments, Intersections, and Freeway Segments

Impacts on roadway segments, intersections, and freeway segments would occur if the proposed project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. Traffic impacts on project study area roadways, intersections, and freeway segments within the District's five member cities were analyzed based on the thresholds provided in their respective guidelines, which are described in Section 4.10.3, *Regulatory Setting*. These guidelines all define project impact thresholds by facility type, and typically serve as the applicable plans, ordinances, or policies determining a project's potential impact on the performance of the circulation system. These thresholds are generally based upon an acceptable sustained increase in the volume to capacity ratio for roadway and freeway segments, and increases in vehicle delays for intersections. Traffic impacts within the City of Chula Vista are analyzed based on the *Guidelines for Traffic Impact Studies in the City of Chula Vista*, while the cities of National City and Imperial Beach both utilize the *SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region* for analyzing traffic impacts. In the event a proposed project exceeds the thresholds outlined in these guidelines, the project is considered to result in a conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness of the circulation system.

As mentioned, fireworks display events are unique in that there are a number of locations that attract vehicular traffic and multi-modal trips. In addition, fireworks display events are temporary and infrequent in nature, with any associated increase in traffic volumes utilizing the surrounding roadways, intersections, and freeway facilities also occurring on a temporary and infrequent basis. The temporary and infrequent nature of fireworks display events and any associated changes in transportation volumes or travel patterns, as well as changes to parking demand or supply, make the use of traditional transportation analysis methods and standards inappropriate. These traditional metrics are typically intended for identifying roadway facility impacts associated with permanent development projects or infrastructure changes that generate long-term changes in transportation volumes or travel patterns, as well as changes to parking demand or supply. Consequently, the various guidelines of the District's member cities, which generally rely on LOS analyses for determining long-term project-related impacts, would not be applicable to fireworks display events. Rather, because fireworks displays are a form of special event, it would be more appropriate to apply the standards of the special event guidelines for the cities of National City and Chula Vista, which both include requirements for maintaining effective circulation during special events, including fireworks display events. Therefore, for the purposes of this Draft EIR, the special event guidelines for the cities of National City and Chula Vista serve as the applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system, and the proposed project's consistency with these guidelines is considered.

Accordingly, this analysis focuses on how the short-term transportation and parking demand patterns changed around San Diego Bay and the Imperial Beach Oceanfront under sample event conditions, as compared to non-event conditions, and where congestion, conflicts between the various modes of travel, and excess parking demand may occur during the sample event. The changes in transportation and parking demand and travel patterns that occurred during existing fireworks display events were applied to the proposed new fireworks display events along the Chula Vista Bayfront and National City Bayfront to identify potential project-related impacts related to conflicts with applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system.

Public Transit

Impacts on transit circulation would occur if the proposed project would conflict with the adopted policies, plans, or programs that support public transit or would otherwise decrease the performance or safety of such facilities. Existing light-rail (Trolley) transit stops along south San Diego Bay include the Harborside, Pacific Fleet, 8th Street, 24th Street, E Street, H Street, Palomar Street, and Palm Avenue Stations. However, it is anticipated that only the 24th Street Station in National City and the E Street and H Street Stations in Chula Vista would provide access to the viewing areas for the proposed new fireworks display events due to their proximity to the Bayfronts. Transit ridership data were collected to understand changes in transit ridership associated with the existing Fourth of July fireworks display events. The changes in transit ridership that occurred during existing fireworks display events were applied to the proposed new fireworks display events along the Chula Vista Bayfront and National City Bayfront to identify potential project-related impacts on public transit.

Pedestrian and Bicycle Facilities

Impacts related to pedestrian and bicycle circulation would occur if the proposed project would conflict with the adopted policies, plans, or programs that support these alternative modes of transportation or would otherwise decrease the performance or safety of such facilities. Pedestrian and bicycle movement counts were conducted 2 hours before and 2 hours after the sample fireworks display events at key intersection locations providing access to the viewing areas. These counts provided a measure of change in pedestrian and bicycle activities near the viewing areas before and after these sample fireworks display events. They also provided another metric for assessing change in vehicular demand during the sample fireworks display events.

Parking

A significant parking impact would occur if the proposed project would result in an insufficient supply of parking to meet the project demand. Because the proposed project does not include any construction, potential parking impacts would not be related to a deficiency in parking provided by the project. Rather, potential parking impacts would occur if the proposed project would create a demand on existing parking facilities that would meet or exceed the capacity of such facilities. Parking facilities that could be potentially affected include those that either directly serve or are within a quarter of a mile of the viewing areas for the proposed new fireworks display events. Potential parking impacts associated with the proposed new fireworks display events were determined based on data collected during the sample fireworks display events.

4.10.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of impacts associated with transportation, circulation, and parking conditions as a result of the proposed project's implementation. The determination of whether a transportation impact would be significant is based on the thresholds described below and the professional judgment of the District as Lead Agency and the recommendations of qualified personnel at ICF and Chen Ryan Associates, all of which is based on evidence in the administrative record. Impacts are considered significant if the project would result in any of the following.

1. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
2. Conflict with applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.

6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.
7. Result in an insufficient supply of parking to meet the project demand.

As discussed in the Initial Study/Environmental Checklist Section XVI (Appendix A), Thresholds 3 and 4 are not included in the analysis below, as it was determined that the proposed project would not result in any impacts related to changes in air traffic patterns or increases in hazards because of a design feature or incompatible use. Those conclusions and the rationale that supports them are summarized in Chapter 6, *Additional Consequences of Project Implementation*. As such, only Thresholds 1, 2, 5, 6, and 7 are discussed in the impact analysis that follows.

4.10.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Impact Discussion

For the purposes of this Draft EIR, the special event guidelines for the cities of National City and Chula Vista serve as the applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system, as these documents provide requirements to ensure effective circulation during special events such as fireworks display events. Impacts would be considered significant if the proposed project would conflict with these guidelines.

Fourth of July Fireworks Display Events

Sample Fourth of July Fireworks Display Event

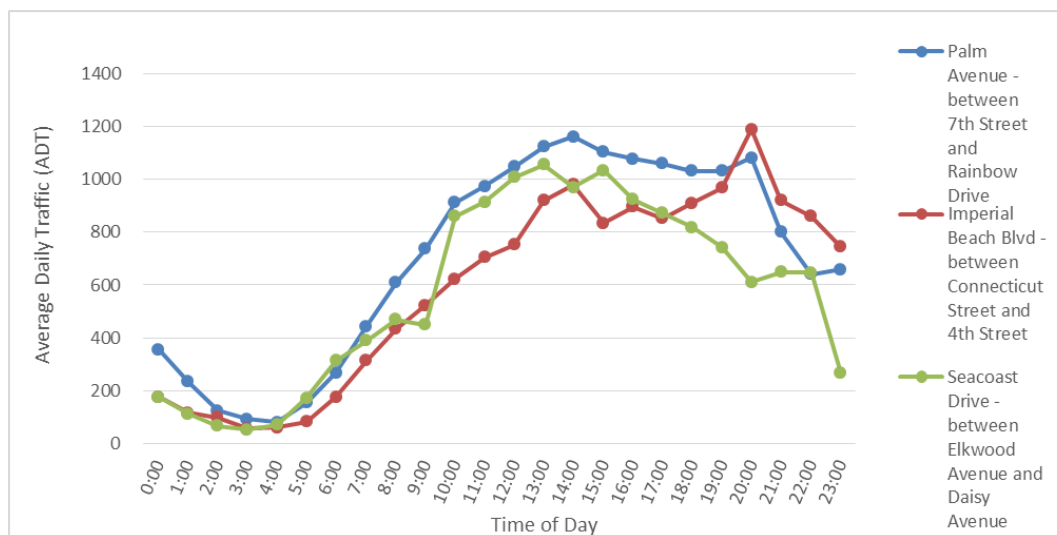
To capture the most conservative scenario for evaluating potential traffic impacts associated with the proposed new Fourth of July fireworks display events along the National City and Chula Vista Bayfronts, the observed changes in travel patterns during the sample Fourth of July Imperial Beach Fireworks Show, an existing annual Fourth of July fireworks display event, were documented. The Fourth of July Imperial Beach Fireworks Show takes place along the Imperial Beach Oceanfront, off the middle of Imperial Beach Pier. The travel-related data from this display were then compared to a typical Saturday (baseline, August 22, 2015) to determine changes in travel patterns with and without a fireworks display event. The magnitude of changes in travel patterns observed during this display was used to understand potential travel pattern-related impacts associated with the proposed new Fourth of July fireworks display events. The changes in travel patterns observed during the sample Fourth of July Imperial Beach Fireworks Show are detailed below.

The City of Imperial Beach is the southernmost beach city on the West Coast of the United States, and is in the South Bay area of San Diego County. The sample Fourth of July Imperial Beach Fireworks Show was viewed by thousands of people from the beach.

Roadway Segments

Figure 4.10-3 displays roadway segment daily traffic volumes during the event day along the main roadways that provide vehicular access to the area.

Figure 4.10-3. Roadway Segment ADT on Sample Fourth of July Fireworks Display Event Day



As shown, the highest traffic volumes on the majority of roadways were experienced between 8:00 p.m. and 9:00 p.m. just prior to the start of the event. High traffic volumes along the majority of roadways persisted for 2 hours after the event between 9:00 p.m. and 11:00 p.m., as viewers vacated the viewing areas.

Table 4.10-4 provides a comparison of the roadway segment average daily traffic (ADT) within the Imperial Beach area during both the event day and non-event day conditions.

Table 4.10-4. Sample Fourth of July Fireworks Display Event and Non-Event Day Roadway Segment ADT Comparisons

Roadway	Segment	ADT		
		Event Day	Non-Event Day (Aug. 22)	Change in Volume %
Palm Avenue	Between 7 th Street and Rainbow Drive	16,800	14,693	14%
Imperial Beach Boulevard	Between Connecticut Street and 4 th Street	14,184	10,762	32%
Seacoast Drive	Between Elkwood Avenue and Daisy Avenue	13,638	7,121	92%
Total Change for the Area¹			37%	

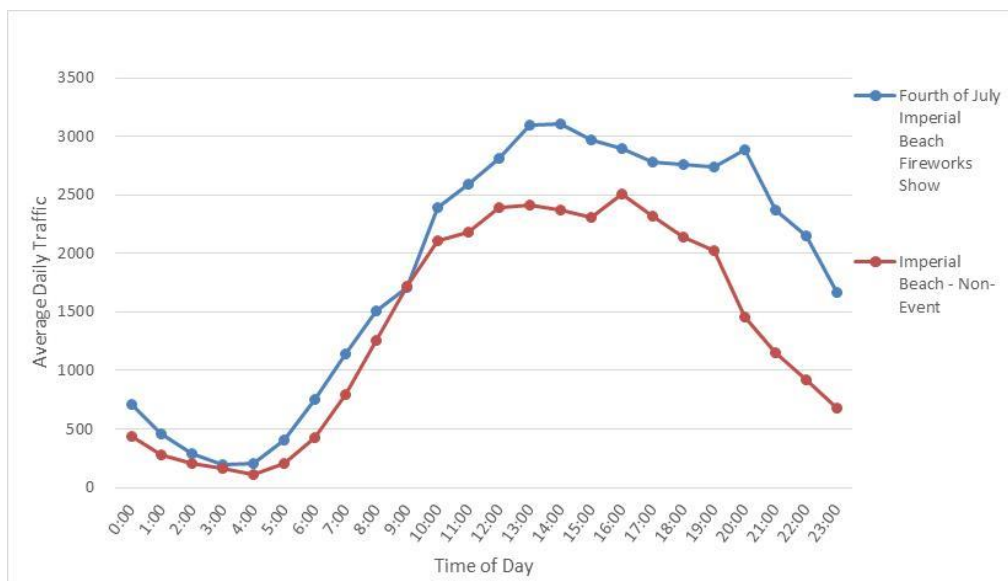
Source: Appendix J

¹Total change for the area is based on the total of the event condition volumes compared to the total of the non-event day condition volumes.

As shown in Table 4.10-4 above, the Imperial Beach area experienced an average increase of 37 percent in average daily vehicular traffic during the event day.

Figure 4.10-4 compares hourly traffic volumes, combined across all observed roadways, between the event day and non-event day conditions in the Imperial Beach area.

Figure 4.10-4. Roadway Segment ADT during Sample Fourth of July Fireworks Display Event and Non-Event Day Conditions



As shown on Figure 4.10-4, the observed change in roadway segment vehicular traffic volumes on the event day were moderate and consistently higher throughout the day compared to non-event day conditions, with an average increase in traffic volumes of 37 percent observed on surrounding roadways. These higher traffic volumes likely resulted in additional traffic congestion and delays along roadways that provide access to the viewing sites for the sample fireworks display event.

Intersections

Table 4.10-5 displays vehicular, pedestrian, and bicyclist volumes at key intersections in the Imperial Beach area during both event and non-event day conditions.

Table 4.10-5. Sample Fourth of July Fireworks Display Event and Non-Event Day Intersection Volumes (7:00 p.m. to 11:00 p.m.)

Intersection	Event Day			Non-Event Day (August 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Palm Avenue and Seacoast Drive	1,822	6,171	181	1,487	317	37	23%	1,847%	389%
Evergreen Avenue and Seacoast Drive	1,860	8,463	357	1,258	510	43	48%	1,559%	730%
Imperial Beach Boulevard and Seacoast Drive	2,228	6,610	215	1,314	188	31	70%	3,416%	594%
Total Change for the Area¹							46%	1,993%	578%

Source: Appendix J

¹ Total change for the area is based on the total of the event condition volumes compared to the total of the non-event day condition volumes.

As shown in Table 4.10-5 above, key intersections in the Imperial Beach area experienced an average increase of 46 percent in vehicular traffic, an average increase of 1,993 percent in pedestrian activity, and an average increase of 578 percent in bicyclist activity during the event. The significant increases in pedestrian and bicycle traffic were observed crossing intersections adjacent to the viewing sites for the sample fireworks display event. Because these pedestrian and bicycle volumes are not typical, the intersections and pedestrian and bicycle facilities adjacent to the sample viewing sites may not have been designed to accommodate these levels of traffic. These higher traffic volumes likely resulted in additional traffic congestion and delays at intersections that provide access to the viewing sites for the sample fireworks display event.

Freeway Facilities

As mentioned, freeway count data for State Route 75 and I-5 were not available for the Imperial Beach area. However, freeway segment counts for the Fourth of July were obtained from the Caltrans PeMS database for segments of I-8 and I-5, each of which provide regional access to San Diego Bay and the Imperial Beach Oceanfront. Because of the regional nature of Fourth of July fireworks display events, these data can be used to correlate potential project-related freeway traffic volumes that could be expected on the freeways that would provide access to the National City and Chula Vista Bayfronts. Table 4.10-6 displays freeway volumes for different freeway segments along I-8 and I-5 during both the event day and non-event day conditions.

Table 4.10-6. Sample Fourth of July Fireworks Display Event and Non-Event Day Freeway Segment Volumes

Freeway	Segment	Direction ¹	Event Day All Day ADT	Event Day 9 p.m. to 12 a.m. ADT	Non-Event Day All Day ADT	Non-Event Day 9 p.m. to 12 a.m. ADT	Change in All Day Traffic Volume %	Change in 9 p.m. to 12 a.m. Traffic Volume %
I-8	Between Sports Arena Boulevard and I-5 Junction	EB	49,502	11,718	59,283	7,350	-16%	59%
		WB	56,055	3,798	61,920	4,064	-9%	-7%
	Between I-5 Junction and Hotel Circle	EB	80,186	16,541	101,849	11,366	-21%	46%
		WB	88,552	5,050	104,700	5,529	-15%	-9%
I-5	Between Washington Street and Sassafras Street	NB	71,616	8,860	78,878	7,009	-9%	26%
		SB	65,701	11,607	73,370	7,432	-10%	56%
	Between Sassafras Street and Front Street	NB	88,339	8,281	99,118	6,609	-11%	25%
		SB	69,298	16,633	78,335	10,343	-12%	61%
Total Change for Area²							-13%	38%

Source: Appendix J

¹ EB = eastbound; WB = westbound; NB = northbound; SB = southbound.

² Total change for the area is based on the total of the event condition volumes compared to the total of the non-event day condition volumes.

As shown in Table 4.10-6 above, freeway volumes experienced an average decrease of 13 percent in average vehicular traffic during the sample Fourth of July fireworks display event day. This decrease could potentially be a result of fewer community members accessing restaurant and commercial establishments in downtown San Diego and the Imperial Beach Oceanfront because of the Fourth of July holiday, and may not be directly related to the actual event. However, increased traffic volumes of 38 percent were also observed on the freeway facilities that serve the sample viewing areas between 9:00 p.m. and 12:00 a.m. following the end of the display. Traffic congestion was observed on the freeway facilities serving the sample existing Fourth of July fireworks display event viewing areas up to 3 hours after the conclusion of the event.

Proposed New Fourth of July Fireworks Display Events

As mentioned, changes in transportation demand and travel patterns that occurred during an existing Fourth of July fireworks display event were applied to the proposed new fireworks display events along the National City and Chula Vista Bayfronts to assess the potential transportation-related impacts associated with these displays. For this analysis, it was assumed that similar levels of additional vehicular, pedestrian, and bicycle activity can be anticipated to occur during the proposed new Fourth of July fireworks display events as those observed during the sample Fourth of July fireworks display event. There is no metric or thresholds for determining whether a certain percentage change in traffic volumes associated with a temporary special event, such as a fireworks display event, is significant. As a result, impacts are analyzed qualitatively by determining whether the changes in transportation demand and travel patterns associated with the proposed new fireworks display events, as applied from the observed changes during the sample Fourth of July display, would conflict with the special event guidelines of the cities of National City or Chula Vista, which serve as the applicable plans, ordinances, and policies establishing measures of effectiveness for the performance of the circulation system for the purposes of this analysis.

While only a moderate temporary increase in vehicle activity was observed on the day of the sample existing Fourth of July fireworks display event, the substantial temporary increase in bicycle and pedestrian activity that was observed indicates that the proposed new fireworks display events would likely result in additional temporary congestion on the roadways, as well as on the pedestrian and bicycle facilities that serve the viewing locations along the National City and Chula Vista Bayfronts, potentially resulting in higher conflicts between these varying modes of transportation. However, the proposed new Fourth of July fireworks display events would be required to comply with the applicable special event guidelines of their respective cities. These special event guidelines require that fireworks display events obtain any necessary special event and/or related permits, and include requirements to implement traffic control plans as necessary. As discussed in Section 4.9, *Public Services and Facilities*, both the National City and Chula Vista police departments implement operational and traffic control plans during special events such as fireworks display events if required as part of the special event permit. Consistent with their current operational practices, the National City and Chula Vista police departments would implement these plans during the proposed new fireworks display events. Therefore, because the proposed new Fourth of July fireworks display events would comply with the special event guidelines of the cities of National City and Chula Vista, including any traffic control requirements of the special event permits, the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Impacts would be less than significant.

Furthermore, the proposed ordinance includes a condition of approval that requires implementation of an Event Transportation and Parking Management Plan for the proposed new Fourth of July fireworks display events, which would further reduce potential conflicts between different modes of transportation by facilitating the movement of vehicular, pedestrian, and bicycle traffic and improving circulation.

Other Non-Fourth of July Fireworks Display Events

Sample Other Non-Fourth of July Fireworks Display Event

To capture the most conservative scenario for evaluating potential traffic impacts associated with the two proposed new other non-Fourth of July fireworks display events along the Chula Vista Bayfront, the observed changes in travel patterns during the End of WWII 70th Anniversary event were documented. The sample End of WWII 70th Anniversary event was held on the flight deck of the U.S.S. Midway Museum, in the North Embarcadero area in downtown San Diego, with the purpose of honoring WWII veterans. The End of WWII 70th Anniversary event was selected for evaluation because it was a publicly advertised fireworks display event that was open to the public. Because this display was advertised and fully open to the public, it is representative of the two proposed other non-Fourth of July fireworks display events along the Chula Vista Bayfront. The sample event took place on Saturday, August 15, 2015, and consisted of a live musical show, a fireworks display, and a dance, with the event commencement and closure occurring at 6:00 p.m. and 10:00 p.m., respectively. The fireworks display occurred in the middle of the event around 8:00 p.m. Data were collected during the sample End of WWII 70th Anniversary event in order to correlate the observed changes in travel and parking patterns associated with this sample event with the two proposed new other non-Fourth of July fireworks display events.

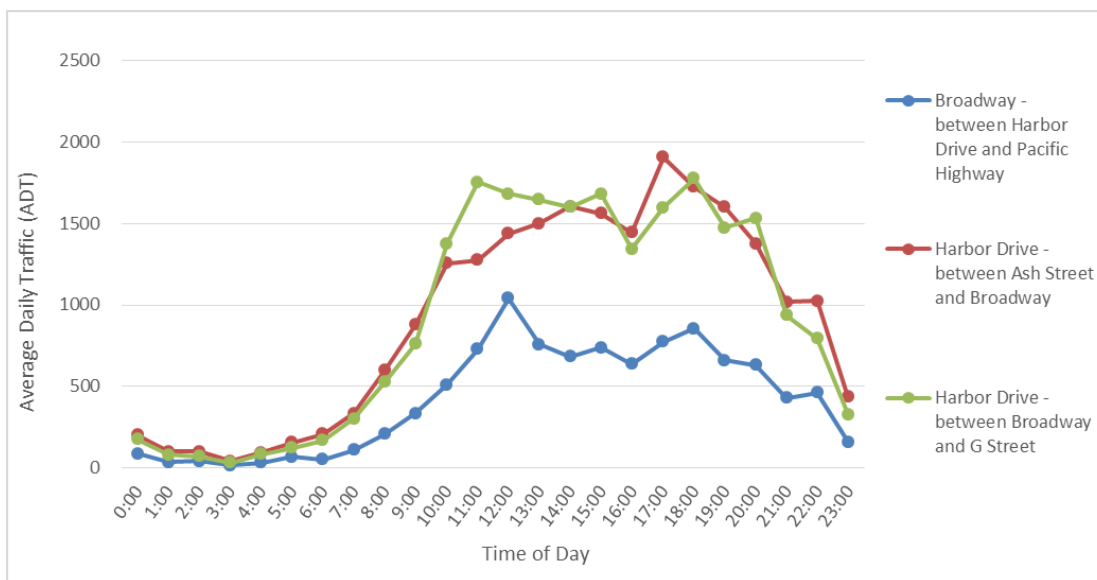
Unlike the sample Fourth of July fireworks display event, which provides for a number of different viewing areas due to the magnitude of the fireworks display, the study area for the sample other non-Fourth of July fireworks display event only included three areas that are adjacent to the U.S.S. Midway Museum. Because the sample End of WWII 70th Anniversary event took place in a single location with only one fireworks launch site, key study roadway segments and intersections were selected only in the North Embarcadero, Central Embarcadero (Seaport Village), and South Embarcadero viewing areas, all of which are adjacent to the U.S.S. Midway Museum.

North Embarcadero

Roadway Segments

Figure 4.10-5 displays roadway segment daily traffic volumes on the event day along the main roadways providing vehicular access to the sample other non-Fourth of July fireworks display event.

Figure 4.10-5. Roadway Segment ADT on Sample Other Non-Fourth of July Fireworks Display Event Day: North Embarcadero



As shown, the highest traffic volumes for the majority of roads occurred between 5:00 p.m. and 6:00 p.m. just prior to the start of the sample End of WWII 70th Anniversary event. Substantial traffic volumes were also maintained for approximately 3 hours after the event, from 9:00 p.m. to 12:00 a.m.

Table 4.10-7 provides a comparison of the roadway segment ADT in the North Embarcadero area during both the sample End of WWII 70th Anniversary event and non-event day conditions.

Table 4.10-7. Sample Other Non-Fourth of July Fireworks Display Event and Non-Event Day Roadway Segment ADT Comparisons: North Embarcadero

Roadway	Segment	ADT		
		Other Event Day	Non-Event Day (Aug. 22)	Change in Volume %
Harbor Drive	Between Ash Street and Broadway	21,886	18,526	18%
	Between Broadway and G Street	21,846	17,115	28%
Broadway	Between Harbor Drive and Pacific Highway	10,055	8,639	16%
Total Change for the Area¹			21%	

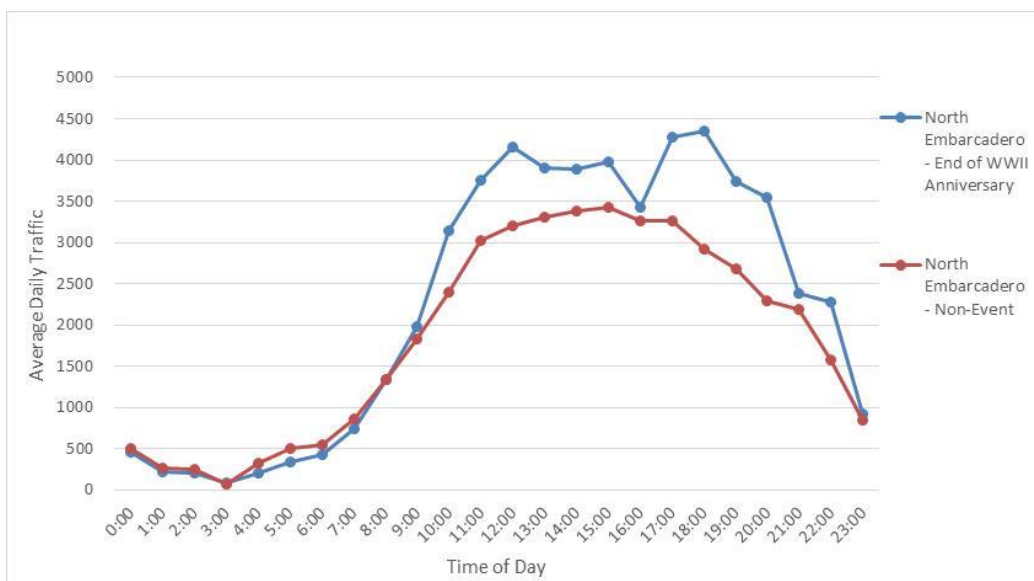
Source: Appendix J

¹Total change for the area is based on the total of the event condition volumes compared to the total of the non-event day condition volumes.

As shown in Table 4.10-7 above, the North Embarcadero area experienced an average increase of 21 percent in average daily vehicular traffic during the day of the sample other non-Fourth of July fireworks display event.

Figure 4.10-6 displays roadway segment daily traffic volumes that occurred during the sample other non-Fourth of July fireworks display event, as well as under non-event day conditions, in the North Embarcadero area.

Figure 4.10-6. Roadway Segment ADT during Sample Other Non-Fourth of July Fireworks Display Event and Non-Event Day Conditions: North Embarcadero Area



As shown, the traffic volumes during the sample other non-Fourth of July fireworks display event day were consistently higher compared to a typical summer Saturday between 9:00 a.m. and 12:00 a.m., with a moderate (21 percent) increase in vehicular traffic observed. This increase in traffic likely resulted in some additional vehicular congestion on the roadway facilities providing access to the viewing site for the sample other non-Fourth of July fireworks display event.

Intersections

Table 4.10-8 displays vehicular, pedestrian, and bicyclist volumes at key intersections in the North Embarcadero area during both the sample End of WWII 70th Anniversary event and non-event day conditions. Both study locations are on bicycle/pedestrian facilities; therefore, only bicycle and pedestrian counts were conducted.

Table 4.10-8. Sample Other Non-Fourth of July Fireworks Display Event and Non-Event Day Intersection Volumes (5:00 p.m. to 11:00 p.m.): North Embarcadero

Intersection	Other Event Day			Non-Event Day (August 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Harbor Drive and Broadway (Embarcadero)	-	3,198	354	-	2,257	300	-	42%	18%
Harbor Drive and Tuna Lane	-	3,371	335	-	2,631	310	-	28%	8%
Total Change for the Area¹							N/A	34%	13%

Source: Appendix J

¹ Total change for the area is based on the total of the event condition volumes compared to the total of the non-event condition volumes.

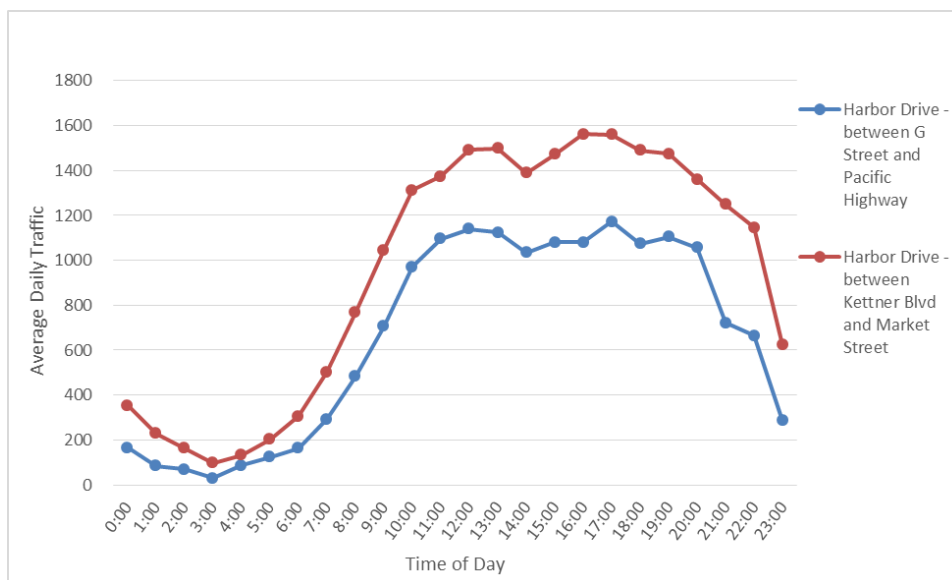
As shown in Table 4.10-8, key intersections in the North Embarcadero area experienced increases in pedestrian activity and bicyclist activity during the sample End of WWII 70th Anniversary event. A moderate increase of 34 percent in pedestrian activity was observed on the day of the sample other non-Fourth of July fireworks display event. Additionally, a small increase of 13 percent in bicycle activity was observed on the day of the sample other non-Fourth of July fireworks display event. Because only moderate and small increases in pedestrian activity and bicycle activity, respectively, were observed on the day of the sample other non-Fourth of July fireworks display event, it is difficult to anticipate whether the two proposed new other non-Fourth of July fireworks display events would potentially affect pedestrian and bicycle facilities adjacent to and accessing the viewing areas along the Chula Vista Bayfront. However, to be conservative, it is assumed that this increase would affect pedestrian and bicycle facilities around the event site on a temporary basis, and additional precautions should be made to accommodate and anticipate these increases.

Central (Seaport Village) and South Embarcadero

Roadway Segments

Figure 4.10-7 displays roadway segment daily traffic volumes during the sample other non-Fourth of July fireworks display event day along the main roadways that provide vehicular access to the area.

Figure 4.10-7. Roadway Segment ADT on Sample Other Non-Fourth of July Fireworks Display Event Day: Central (Seaport Village) and South Embarcadero



As shown, the highest traffic volumes during the sample other non-Fourth of July fireworks display event occurred between 4:00 p.m. and 5:00 p.m. just prior to the start of the End of WWII 70th Anniversary event.

Table 4.10-9 provides a comparison of roadway segment ADT within the Central (Seaport Village) and South Embarcadero during both the sample End of WWII 70th Anniversary event and non-event conditions.

Table 4.10-9. Sample Other Non-Fourth of July Fireworks Display Event and Non-Event Day Roadway Segment ADT Comparisons: Central (Seaport Village) and South Embarcadero

Roadway	Segment	ADT		
		Other Event Day	Non-Event Day (Aug. 22)	Change in Volume %
Harbor Drive	Between G Street and Pacific Highway	15,793	13,912	14%
	Between Kettner Boulevard and Market Street	22,789	21,985	4%
Total Change for the Area¹			7%	

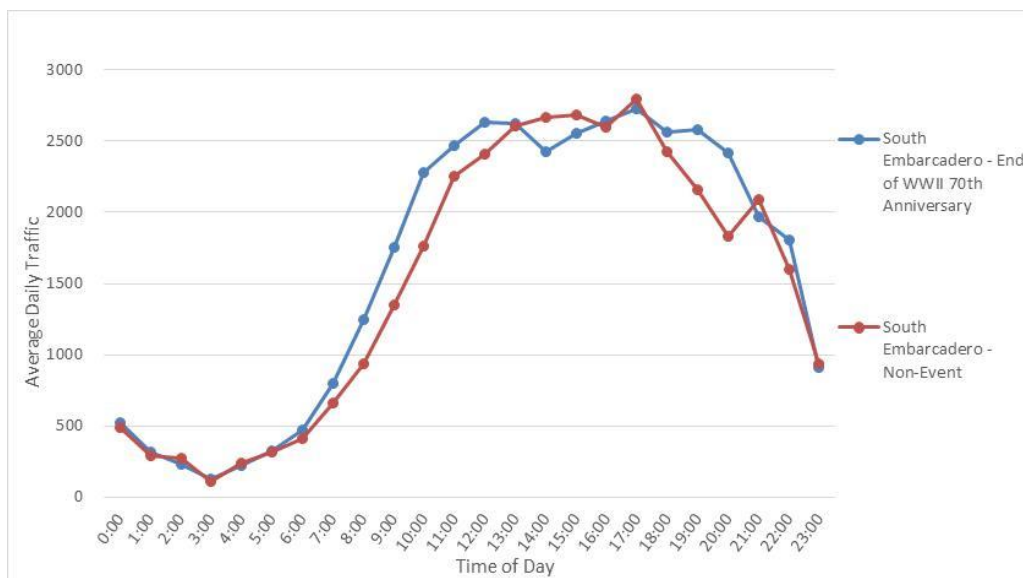
Source: Appendix J

¹Total change for the area is based on the total of the event condition volumes compared to the total of the baseline condition volumes.

As shown in Table 4.10-9, Harbor Drive in the Central (Seaport Village) and South Embarcadero area experienced an average increase of 7 percent in vehicular traffic during the sample other non-Fourth of July fireworks display event.

Figure 4.10-8 displays roadway segment daily traffic volumes during the sample event day, as well as during non-event conditions, in the Central (Seaport Village) and South Embarcadero area.

Figure 4.10-8. Roadway Segment ADT Sample Other Non-Fourth of July Fireworks Display Event and Non-Event Day Conditions: Central (Seaport Village) and South Embarcadero



As shown, ADT on the event day was slightly higher (7 percent increase) compared to non-event day conditions between 6:00 a.m. and 12:00 p.m. This increase most likely represents patrons accessing the additional WWII celebratory activities around the site during the day. Additionally, there was an increase in vehicular traffic between 6:00 p.m. and 9:00 p.m., which is most likely associated with patrons accessing the sample End of WWII 70th Anniversary event, which occurred between 6:00 p.m. and 10:00 p.m. The fireworks display occurred in the middle of the event around 8:00 p.m. While only a slight increase in vehicular traffic was observed, this additional traffic likely resulted in some additional vehicular congestion on the roadway facilities providing access to the viewing site for the sample other non-Fourth of July fireworks display event.

Intersections

It was assumed that patrons coming in from this location would park in either Seaport Village or on the G Street Mole and would use the Embarcadero to access the site. Therefore, no intersections were analyzed at this location.

Freeway Facilities

Freeway segment counts were obtained from the Caltrans PeMS database for the segments of I-5 that provide regional access to the viewing areas. Table 4.10-10 displays freeway volumes for freeway segments along I-5.

Table 4.10-10. Sample Other Non-Fourth of July Fireworks Display Event and Non-Event Day Freeway Segment Volumes

Freeway	Segment	Direction	Other Event Day ADT	Non-Event Day ADT	Change in Traffic Volume %
I-5	Between Washington Street and Sassafras Street	NB	79,197	78,878	0.4%
		SB	73,029	73,370	-0.5%
	Between Sassafras Street and Front Street	NB	100,156	99,118	1.0%
		SB	78,325	78,335	0.0%
Total Change in Area¹				0.3%	

Source: Appendix J

¹Total change for the area is based on the total of the event condition volumes compared to the total of the baseline condition volumes.

NB = northbound; SB = southbound

As shown in Table 4.10-10 above, a minimal average increase of 0.3 percent in traffic volumes at freeway facilities serving the sample non-Fourth of July fireworks display viewing areas was observed during the event. This increase in traffic may not be directly related to the actual event, and would represent a negligible increase in vehicle traffic on freeway facilities.

Proposed New Non-Fourth of July Fireworks Display Events

As mentioned, changes in transportation and travel patterns that occurred during an existing non-Fourth of July fireworks display event were applied to the proposed new fireworks display events along the Chula Vista Bayfront to assess the potential transportation-related impacts associated with these fireworks display events. For this analysis, it was assumed that similar levels of additional vehicular, pedestrian, and bicycle activity can be anticipated to occur during the proposed new non-Fourth of July fireworks display events as those observed during the sample End of WWII 70th Anniversary event. There is no metric or thresholds for determining whether a certain percentage change in traffic volume associated with a temporary special event, such as a fireworks display event, is significant. As a result, impacts are analyzed qualitatively by determining whether the changes in transportation demand and travel patterns associated with the proposed new fireworks display events, as applied from the observed changes during the sample other non-Fourth of July display, would conflict with the special event guidelines of the City of Chula Vista, which serves as the applicable plan, ordinance, and policy establishing measures of effectiveness for the performance of the circulation system for the purposes of this analysis.

While only a small to moderate temporary increase in vehicle, pedestrian, and bicycle activity was observed on the day of the sample other non-Fourth of July fireworks display event, there is a potential that the proposed new non-Fourth of July fireworks display events would still result in additional congestion on the roadways, as well as on the pedestrian and bicycle facilities that serve the viewing locations along the Chula Vista Bayfront. This additional congestion could result in higher conflicts between these varying modes of transportation. However, the proposed new other non-Fourth of July fireworks display events would be required to comply with the applicable special event guidelines of the City of Chula Vista. These special event guidelines require that fireworks display events obtain any necessary special event and/or related permits, and include requirements to implement traffic control plans as necessary. As discussed in Section 4.9, *Public Services and*

Facilities, the Chula Vista Police Department implements operational and traffic control plans during special events such as fireworks display events if required as part of the special event permit. The transportation operational plan as required by the Chula Vista Special Event Guidelines would require traffic control in order to facilitate vehicular, bicycle, and pedestrian movement on City streets and public rights-of-way. In accordance with the City's Special Event Guidelines, transportation operational plans specific to each proposed new fireworks display event would be implemented by the Chula Vista Police Department if deemed necessary. Therefore, because the proposed new non-Fourth of July fireworks display events would comply with the special event guidelines of the City of Chula Vista, including any traffic control requirements of the special event permit, the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Impacts would be less than significant.

Furthermore, the proposed ordinance includes a condition of approval that requires implementation of an Event Transportation and Parking Management Plan for the proposed new non-Fourth of July fireworks display events, which would reduce potential conflicts between different modes of transportation by facilitating the movement of vehicular, pedestrian, and bicycle traffic and improving circulation.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. However, the proposed ordinance contains several conditions of approval to reduce potential environmental impacts, including implementation of an Event Transportation and Parking Management Plan for all publicly advertised fireworks display events. The Event Transportation and Parking Management Plan will include transportation demand and parking management strategies, such as providing event traffic control and promoting the use of public transit. This would help to reduce potential conflicts between different modes of transportation by facilitating the movement of vehicular, pedestrian, and bicycle traffic and improving circulation. Additionally, the Event Transportation and Parking Management Plan would promote the use of alternative modes of transportation, thus reducing the number of vehicles accessing the freeway facilities serving the existing fireworks display event viewing areas. Compliance with the proposed ordinance would improve the existing condition by improving circulation and safety on the roadway network surrounding the existing fireworks display events. Therefore, the effects of the proposed ordinance on existing fireworks display events would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not result in conflicts with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 2: Implementation of the proposed project would not conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Impact Discussion

Proposed New Fireworks Display Events

As described in Section 4.10.3.2, *Regional*, SANDAG is the lead agency for congestion management compliance for the San Diego region. In 2009, the San Diego region elected to be exempt from the state CMP and, since this decision, SANDAG has been abiding by 23 CFR 450.320 to ensure the region's continued compliance with the federal congestion management process. SANDAG's Regional Plan, the region's RTP and SCS, meets the requirements of 23 CFR 450.320.

Therefore, to determine if the proposed project would conflict with an applicable congestion management program, the proposed project was reviewed for consistency with the Regional Plan, which is a land use and transportation planning document that discusses land use policy at a very general level. The Regional Plan mostly incorporates the land use policies of local jurisdictions and focuses on transportation infrastructure and management programs to support those policies. No directly applicable land use policies were identified that pertain to the proposed project because the project does not involve any landside or waterside construction and the project is not proposing changes in land use designations of the project sites. Additionally, the proposed project would not

result in any changes to existing transportation infrastructure. Moreover, the proposed project consists of periodic and infrequent special events of very short duration and would not interfere with the policies or projects identified in the Regional Plan. Therefore, the proposed new fireworks display events would not conflict with an applicable congestion management program, and impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events and does not contain any conditions related to congestion management programs; therefore, the proposed ordinance would not result in any changes to the existing condition in terms of these programs. As such, the effects of the proposed ordinance on existing fireworks display events would not conflict with applicable congestion management programs. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not conflict with an applicable congestion management program including, but not limited to, LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not result in conflicts with an applicable congestion management program. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Proposed Ordinance Changes to Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 5: Implementation of the proposed project would not result in inadequate emergency access.**Impact Discussion****Proposed New Fireworks Display Events**

As discussed under Threshold 1, both the sample Fourth of July and non-Fourth of July fireworks display events were observed to generate increased levels of vehicle, pedestrian, and bicycle traffic. For the sample Fourth of July fireworks display event, there was a moderate temporary increase in vehicular traffic observed on surrounding roadway segments during the event when compared to non-event conditions, with an average increase of 37 percent. In addition, a moderate temporary increase in vehicular volumes and significant temporary increases in pedestrian and bicycle activity were observed on the intersections adjacent to the event location both before and after the sample Fourth of July fireworks display event, with an average 46 percent increase in vehicular traffic, 1,993 percent increase in pedestrian traffic, and 578 percent increase in bicycle traffic. For this analysis, it was assumed that similar levels of additional pedestrian and bicycle traffic can be anticipated to occur during the proposed new Fourth of July fireworks display events along the National City and Chula Vista Bayfronts as those observed during the sample Fourth of July fireworks display event. Because these pedestrian and bicycle volumes are not typical, the intersections and pedestrian and bicycle facilities adjacent to the new fireworks display event viewing areas may not be designed to accommodate this level of conflict between the modes of travel. These higher volumes were typically observed before and after the sample Fourth of July fireworks display event and, therefore, would likely result in additional temporary traffic congestion and delays along roadways and at intersections that provide access to the event locations for the proposed new Fourth of July fireworks display events. As a result, there is a potential that pedestrian and bicycle traffic could overflow into adjacent roadways and intersections, which in turn could temporarily impede vehicle circulation and temporarily impair emergency access.

For the sample other non-Fourth of July fireworks display event, there was a small to moderate temporary increase in vehicular traffic observed on surrounding roadways during the event when compared to non-event conditions, ranging between a 7 percent and 21 percent increase. Regarding bicycle and pedestrian activity, a small temporary increase of 13 percent in bicycle traffic and a moderate temporary increase of 34 percent in pedestrian traffic were observed both before and after the sample other non-Fourth of July fireworks display event. For this analysis, it was assumed that similar levels of additional traffic can be anticipated to occur during the proposed new non-Fourth of July fireworks display events along the Chula Vista Bayfront as those observed during the sample other non-Fourth of July fireworks display event. While only a small to moderate temporary increase in vehicle, pedestrian, and bicycle activity was observed during the sample other non-Fourth of July fireworks display event, the increase in traffic would still likely result in some additional temporary congestion on the roadways and pedestrian and bicycle facilities adjacent or providing access to the viewing areas for the proposed new non-Fourth of July fireworks display events. Therefore, this analysis conservatively assumes there is a potential that the temporary increase in traffic could result in additional temporary congestion on the roadways and pedestrian and bicycle facilities that would serve the viewing locations along the Chula Vista Bayfront, which in turn could temporarily impede vehicle circulation and emergency access.

As discussed in Section 4.5, *Hazards and Hazardous Materials*, and Section 4.9, *Public Services and Facilities*, the National City and Chula Vista fire departments would provide fire protection and emergency services during the proposed new fireworks display events on the barges and within the landside viewing areas in their respective cities. The City of National City requires Temporary Use Permits for special events, which are forwarded to City departments such as the fire department for review and emergency planning purposes (Hernandez pers. comm.). A fireworks permit from the National City Fire Department would also be required for the proposed new fireworks display event. The National City Fire Department has absolute authority, control, and decisions over all fireworks and/or pyrotechnic displays for which it issues a permit. In addition, the National City Police Department implements an operational plan and a traffic plan to respond to any emergencies during special events, such as a fireworks display event. Consistent with its current practice, the National City Police Department would implement an operational plan and a traffic plan during the proposed new Fourth of July fireworks display event in National City. The City of Chula Vista maintains Special Event Guidelines, which outline the Special Event Permit process, any special event-related permit types, and any requirements for the special event, such as an operational plan. There are multiple types of operational plans that may be required as part of the Special Event Permit issued by the City, including medical and transportation operational plans.

The Chula Vista Police Department in conjunction with the City of Chula Vista Public Works/Traffic Engineering staff determines if a transportation operational plan is required. The transportation operational plan would require traffic control in order to facilitate vehicular, bicycle, and pedestrian movement on City streets and public rights-of-way that would potentially be affected by the event. A firework/pyrotechnic/special effect/laser permit is one of the special event-related permits outlined in the City of Chula Vista's Special Event Guidelines. This permit is required for all activities associated with the use of pyrotechnics and open flames and must be reviewed and approved by the Chula Vista Fire Department in compliance with the California Fire Code as amended by the State of California and City of Chula Vista. Additionally, the proposed new fireworks display events along the National City and Chula Vista Bayfronts would be required to comply with all federal, state, and local laws and regulations governing fireworks, including, but not limited to, the laws and regulations set forth in the *Fireworks in California* handbook (Appendix C of this Draft EIR), which is enforced by the responsible city fire department with jurisdiction over each display, as well as any special event permit requirements of the National City and Chula Vista Fire Departments. The existing procedures of these agencies are in place for maintaining effective response times and ensuring that adequate emergency access is provided during special events such as a fireworks display event.

Within San Diego Bay, other emergency response would be provided by the San Diego Harbor Police Department (HPD), which would employ special patrol vessels to ensure safety on the water during these new fireworks display events, as necessary. HPD currently provides police protection, law enforcement, and marine firefighting services in and around San Diego Bay for the District. It is anticipated that HPD would provide additional police protection services, which would involve employing landside patrols and special patrol vessels to provide law enforcement on the water. HPD has indicated that it currently provides adequate law enforcement service and response times during existing individual fireworks display events through the strategic placement of units on tidelands and major patrol areas (Brick pers. comm.). Consistent with its current practice, HPD would continue to provide adequate law enforcement services and response times for fireworks display events, including the four proposed new fireworks display events along the National City and Chula Vista Bayfronts. In addition, HPD would implement traffic plans and plans for emergency

response through an Emergency Operations guide for each proposed new fireworks display event (Brick pers. comm.). During existing Fourth of July fireworks display events, HPD increases personnel staffing in patrol versus normal personnel staffing in patrol, thereby ensuring effective response times (Brick pers. comm.). Consistent with its current operational practices, HPD would continue to increase personnel staffing as necessary during fireworks display events, including the proposed new fireworks display events along the National City and Chula Vista Bayfronts. Additionally, HPD provides marine firefighting services in and around San Diego Bay for the District. In addition to watercraft enforcement, HPD patrol boats can also serve as firefighting boats that respond to fire emergencies in the Bay. Consistent with its current operational practices during existing fireworks display events, HPD would continue to provide both of these services for the proposed new fireworks display events along the National City and Chula Vista Bayfronts.

Event-specific regulatory and enforcement services within San Diego Bay are provided by the U.S. Coast Guard (USCG). USCG facilitates events that occur on federal waterways by receiving, analyzing, and reviewing Applications for Marine Event for each fireworks display event. During the proposed new fireworks display events within San Diego Bay, USCG would enforce regulatory Safety Zones around the barge to ensure public safety and clearance of the area as well as provide enforcement of the Navigation Rules. Additionally, consistent its current operational practices, USCG would continue to increase staffing on the night of the fireworks display event as necessary, with additional patrol units providing specific event command and control, and multiple active duty and auxiliary vessel assets to ensure effective response times. If deemed necessary, a “normal duty watch” would also be provided, consisting of a command center, search and rescue and law enforcement vessels, and search and rescue aircraft. Furthermore, for all fireworks display events that occur within San Diego Bay, USCG would also coordinate closely with HPD on the position and location of personnel and assets. This coordination with HPD is in addition to USCG’s normal requirements and duties for operations related to safety and security within its area of responsibility (Cole pers. comm.). Therefore, both proposed new Fourth of July and other non-Fourth of July fireworks display events would result in less-than-significant impacts on emergency access.

Furthermore, the proposed ordinance includes a condition of approval that requires implementation of an Event Transportation and Parking Management Plan before, during, and after each proposed new fireworks display event, which would further improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby ensuring that adequate emergency access is provided.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District’s tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. However, the proposed ordinance contains several conditions of approval to reduce potential environmental impacts, including implementation of an Event Transportation and Parking Management Plan for all publicly advertised fireworks display events. The Event Transportation and Parking Management Plan will include transportation demand and parking management strategies, such as providing event traffic control and promoting the use of public transit. This would improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic around the locations of the individual existing displays and reduce the potential for delay that might impede emergency access. Compliance with the proposed ordinance would

improve the existing condition by improving circulation and emergency access on the roadway network surrounding the existing fireworks display events. As such, the effects of the proposed ordinance on existing fireworks display events would not result in inadequate emergency access. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events would not result in inadequate emergency access. Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not result in inadequate emergency access. No significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Impacts would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 6: Implementation of the proposed project would conflict with adopted policies, plans, or programs regarding roadway, public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Impact Discussion

Impacts on pedestrian, bicycle, and public transit facilities would occur if the proposed project would either conflict with the adopted policies, plans, or programs that support these alternate modes of transportation or otherwise decrease the performance or safety of such facilities.

Proposed New Fireworks Display Events

Public Transit Facilities

Existing light-rail transit stops along south San Diego Bay include the Harborside, Pacific Fleet, 8th Street, 24th Street, E Street, H Street, Palomar Street, and Palm Avenue Stations. However, it is anticipated that only the 24th Street Station in National City and the E Street and H Street Stations in Chula Vista would provide access to the viewing areas for the proposed new fireworks display events due to their proximity to the Bayfronts. Transit ridership data were collected to understand changes in transit ridership associated with the existing Fourth of July fireworks display events. The changes in transit ridership that occurred during existing fireworks display events were applied to the proposed new fireworks display events along the Chula Vista Bayfront and National City Bayfront to identify potential project-related impacts on public transit. The fireworks organizer and the District, in collaboration with MTS, the local public transit service provider, encourage people to abstain from driving on the Fourth of July and instead utilize public transit (Trolley) to access the viewing locations for Fourth of July fireworks display events. Because MTS does not monitor daily trolley ridership by station location, total system-wide ticket sales were obtained from MTS in lieu of ticket sales by specific station for previous Fourth of July holidays, as well as typical weekend ridership. Table 4.10-11 displays system-wide trolley ticket sales during a previous Fourth of July holiday (Thursday, July 4, 2013), as well as during a typical weekday and a typical weekend day.

Table 4.10-11. System-Wide Trolley Ticket Sales During Sample Previous Fourth of July Holiday, Typical Weekday, and Typical Weekend

Type of Ticket	Fourth of July	Typical Weekday	Typical Weekend	Change in Ticket Sales Weekday	Change in Ticket Sales Weekend
Senior/Disabled One-Way	2,094	2,501	2,167	-16%	-3%
Adult One-Way	9,963	7,624	6,949	31%	43%
Day Pass	9,145	7,560	6,051	21%	51%
Total¹	21,202	17,685	15,167	20%	40%

Source: Appendix J

¹ Total change for the area is based on the total of the event condition volumes compared to the total of the baseline condition volumes.

As demonstrated in Table 4.10-11 above, the sample Fourth of July holiday experienced an increase of 20 percent in ticket sales when compared to typical weekday ticket sales and an increase of 40 percent in ticket sales when compared to a typical weekend day. It is important to note that on major holidays, MTS offers the “Friends Ride Free” promotion, which allows two passengers to ride on one valid fare of any type. This promotion could contribute to an increase in ticket sales during the Fourth of July. In addition, the increased trolley ticket sales and associated transit ridership could also be a result of the Fourth of July holiday in general, and not necessarily the fireworks display event itself. As such, while there was an observed increase in transit ridership during the sample Fourth of July holiday, it is not anticipated that the proposed new Fourth of July fireworks display events would generate increased transit ridership to an extent that would conflict with the adopted policies, plans, or programs that support these alternate modes of transportation or otherwise decrease the performance or safety of such facilities. Furthermore, the proposed new

Fourth of July fireworks display events would be temporary in nature and only occur once a year, and would typically cater to local and regional populations. As a result, the proposed new fireworks display events would not facilitate a permanent growth in population that would substantially increase the use of existing public transit facilities. Therefore, impacts of the proposed new Fourth of July fireworks display events on public transit would be less than significant.

Transit ridership data were not available for the sample non-Fourth of July fireworks display event day, August 15, 2015. However, because it is anticipated that less-than-significant impacts on transit would occur during the proposed new Fourth of July fireworks display events, it can be assumed that other non-Fourth of July fireworks display events would also result in less-than-significant impacts on public transit, because these events are isolated and will have lower attendees than the proposed new Fourth of July fireworks display events. Therefore, the proposed new non-Fourth of July fireworks display events would not conflict with adopted policies, plans, or programs regarding public transit, or otherwise decrease the performance or safety of such facilities.

Pedestrian and Bicycle Facilities

As discussed under Threshold 1, the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including pedestrian and bicycle facilities. As such, the proposed project would not conflict with adopted policies, plans, or programs regarding bicycle or pedestrian facilities. The sample Fourth of July fireworks display event was observed to temporarily generate moderately increased levels of vehicle traffic and significantly increased levels of pedestrian and bicycle traffic, with a 1,993 percent increase in pedestrian traffic and 578 percent increase in bicycle traffic observed crossing intersections adjacent to the sample existing Fourth of July fireworks display event location. For this analysis, it was assumed that similar levels of additional pedestrian and bicycle traffic can be anticipated to occur during the proposed new Fourth of July fireworks display events along the National City and Chula Vista Bayfronts as those observed during the sample Fourth of July fireworks display event. Because these pedestrian and bicycle volumes are not typical, the intersections and pedestrian and bicycle facilities adjacent to the new fireworks display event viewing areas may not be designed to accommodate this level of conflict between the modes of travel. In the event that pedestrian and bicycle volumes exceed the capacity of such facilities, there is a potential that pedestrian and bicycle traffic could overflow into adjacent roadways and intersections, which would temporarily decrease the safety of such facilities and result in potential safety hazards to pedestrians and bicyclists. In addition, significant temporary increases in pedestrian and bicycle activity like those observed during the sample Fourth of July fireworks display events would likely cause additional conflicts between the modes of travel at intersection points, resulting in temporary congestion, ultimately affecting vehicle circulation on adjacent roadway facilities. As a result, this temporary congestion could potentially temporarily decrease the performance of such facilities.

Similarly, the observed changes in travel patterns during the sample other non-Fourth of July fireworks display event were also applied to the proposed new other non-Fourth of July fireworks display events along the Chula Vista Bayfront. While only a small to moderate temporary increase in vehicle, pedestrian, and bicycle activity was observed on the day of the sample other non-Fourth of July fireworks display event, there is a potential that the proposed new non-Fourth of July fireworks display events would still result in additional congestion on the roadways, as well as on pedestrian

and bicycle facilities that serve the viewing locations along the Chula Vista Bayfront. This additional congestion could also temporarily decrease the performance and safety of such facilities.

As discussed under Threshold 1, the proposed new fireworks display events would be required to comply with the applicable special event guidelines of their respective cities. These special event guidelines require that fireworks display events obtain any necessary special event and/or related permits, and require the implementation of traffic control plans as necessary. Traffic control would be conducted by either police department staff or individuals certified in traffic control by the police department. These existing procedures are in place to facilitate vehicular, bicycle, and pedestrian movement and ensure that pedestrians and bicyclists are safely accommodated, thus reducing the potential for conflicts between the modes of travel at intersection points. As such, because of the existing procedures in place for special events, the proposed new fireworks display events would not decrease the safety of such facilities or result in potential safety hazards to pedestrians, bicyclists, or motorists. Impacts on pedestrian, bicycle, and roadway facilities associated with decreased safety would be less than significant. However, because of the increase in vehicular, pedestrian, and bicycle volumes and temporary congestion, the proposed new fireworks display events would have the potential to temporarily decrease the performance of roadway, bicycle, and pedestrian facilities. Potential impacts of decreased performance on roadway, pedestrian, and bicycle facilities associated with the proposed new fireworks display events would be significant (**Impact-TRA-1**).

Mitigation measure **MM-TRA-1** requires implementation of the transportation-related conditions of the proposed ordinance, which require an approved Event Transportation and Parking Management Plan for each proposed new fireworks display event. Implementation of an Event Transportation and Parking Management Plan would facilitate the movement of vehicular, pedestrian, and bicycle traffic, which would further help to safely accommodate the additional vehicular, pedestrian, and bicycle traffic accessing the individual event locations and reduce potential conflicts between different modes of transportation, thereby improving the safety of roadway, bicycle, and pedestrian facilities. In addition, implementation of an Event Transportation and Parking Management Plan, as required by **MM-TRA-1**, would improve vehicle, bicycle, and pedestrian circulation, consequently improving the performance of roadway, bicycle and pedestrian facilities.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. However, the proposed ordinance contains several conditions of approval to reduce potential environmental impacts, including implementation of an Event Transportation and Parking Management Plan for publicly advertised fireworks display events. The Event Transportation and Parking Management Plan will include transportation demand and parking management strategies, such as providing event traffic control and promoting the use of public transit. This would help to safely accommodate additional pedestrian and bicycle traffic accessing the viewing areas for existing fireworks display events and reduce potential conflicts between different modes of transportation by providing event traffic control. Compliance with the proposed ordinance would result in minimal, if any, changes to the existing condition in relation to public transit, as MTS currently promotes the use of public transit on major holidays such as the Fourth of July through its "Friends Ride Free" program. However, compliance with the proposed ordinance would improve vehicle, bicycle, and pedestrian circulation,

consequently improving the performance and safety of bicycle and pedestrian facilities. As such, the proposed ordinance would improve the existing condition by improving circulation and safety on the roadway network surrounding the existing fireworks display events. Therefore, the effects of the proposed ordinance on existing fireworks display events would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. No significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events have the potential to decrease the performance of roadway, pedestrian, and bicycle facilities (**Impact-TRA-1**). Potentially significant impact(s) include:

Impact-TRA-1: Decrease in the Performance of Roadway, Pedestrian, and Bicycle Facilities from Proposed New Fireworks Display Events. The proposed new fireworks display events have the potential to temporarily decrease the performance of roadway, pedestrian, and bicycle facilities as a result of increased levels of vehicular, pedestrian, and bicycle activity. Potential impacts would be significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

MM-TRA-1: Implementation of the Transportation-Related Conditions of the Proposed Ordinance. The fireworks organizer of each proposed new fireworks display event shall comply with the following transportation-related condition of the proposed ordinance.

Section X.07 – Permits – Conditions of Approval

(h) Event Transportation and Parking Management Plans. For all Fourth of July fireworks display events and for non-Fourth of July fireworks display events that are advertised to the public, the Fireworks Organizer shall prepare and submit an event transportation and parking management plan to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The Event Transportation and Parking Management Plan shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:

1. Transportation management strategies, including but not limited to a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which shall be implemented for the fireworks display event; and
 2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, offsite parking arrangements, designated areas for taxi and rideshare pick-up/drop-off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations.
- (j) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state, and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city that has jurisdiction over all or any part of the activity allowed under said Permit.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

While there was an observed increase in transit ridership during the sample Fourth of July holiday, it is not anticipated that the proposed new Fourth of July fireworks display events would generate increased transit ridership to an extent that would conflict with the adopted policies, plans, or programs that support these alternate modes of transportation or otherwise decrease the performance or safety of such facilities. Therefore, impacts on public transit would be less than significant. In addition, the proposed project would not conflict with adopted policies, plans, or programs regarding bicycle or pedestrian facilities, and impacts would be less than significant.

Moderate temporary increases in vehicle volumes and significant temporary increases in pedestrian and bicycle volumes were observed on the day of the sample Fourth of July fireworks display event, while a small to moderate temporary increase in vehicle, pedestrian, and bicycle activity was observed on the day of the sample other non-Fourth of July fireworks display event. Applying these observed changes, similar levels of additional pedestrian and bicycle traffic can also be anticipated to occur during the proposed new fireworks display events along the National City and Chula Vista Bayfronts. As a result, the proposed new fireworks display events have the potential to temporarily increase congestion on surrounding roadway facilities as a result of increased pedestrian and bicycle volumes. This additional congestion, associated with the conflicts between the various modes, has the potential to decrease the performance of roadway, bicycle, and pedestrian facilities. **(Impact-TRA-1)**. Mitigation measure **MM-TRA-1** requires implementation of the transportation-related conditions of the proposed ordinance, which require the fireworks organizer for each proposed new fireworks display event to implement an approved Event Transportation and Parking Management Plan. The Event and Transportation Parking Management Plan includes transportation management strategies, including but not limited to a public awareness program, traffic

management and enforcement personnel, incident management, and public transit and alternative modes of transportation management. The Event Transportation and Parking Management Plan would improve circulation around the viewing locations by employing traffic control personnel to facilitate the movement of vehicular, pedestrian, and bicycle traffic, thereby reducing the potential for conflicts between these varying modes of transportation, as well as delay and congestion. Implementation of an approved Event Transportation and Parking Management Plan, as required by **MM-TRA-1**, would reduce congestion to the extent practicable and would improve the performance of roadway, pedestrian, and bicycle facilities serving the various viewing areas. It is anticipated that the Event Transportation and Parking Management Plan would reduce impacts to less-than-significant levels. However, there are no metrics or tools available to quantify the effectiveness of the Event Transportation and Parking Management Plan in reducing congestion. Consequently, because the extent to which impacts would be reduced cannot be quantified, it cannot be determined with certainty that impacts would be reduced to less-than-significant levels. Therefore, this analysis conservatively assumes that **Impact-TRA-1** is significant and unavoidable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

Threshold 7: Implementation of the proposed project would result in inadequate parking supply.

Impact Discussion

Fourth of July Fireworks Display Events

Sample Fourth of July Fireworks Display Event

For the sample Fourth of July fireworks display event, parking occupancy counts were conducted at four parking facilities. Parking facilities that either directly serve or are within a quarter of a mile of the event location were counted during the afternoon and evening (at 1:00 p.m., 3:00 p.m., 5:00 p.m., and 7:00 p.m.) to determine whether and when they reached capacity. Imperial Beach features four parking lots with low capacity that reached their full capacity quickly. People tended to park on adjacent residential streets, reaching out as far east as 5th Street, approximately half a mile away from the Pier Plaza. Table 4.10-12 displays parking occupancy observed at different times during the afternoon.

Table 4.10-12. Sample Fourth of July Fireworks Display Event and Non-Event Day Parking Occupancy: Imperial Beach

Parking Lot	1 p.m. to 2 p.m.		3 p.m. to 4 p.m.		5 p.m. to 6 p.m.		7 p.m. to 8 p.m.	
	Event	Non-Event	Event	Non-Event	Event	Non-Event	Event	Non-Event
Daisy Avenue Parking Lot	100%	95%	100%	100%	100%	100%	100%	100%
Elm Avenue Parking Lot	Closed	99%	Closed	100%	Closed	95%	Closed	95%
Seacoast Drive Parking Lot	100%	80%	100%	90%	100%	95%	100%	100%
Imperial Beach Boulevard Parking Lot	100%	100%	100%	100%	100%	70%	100%	100%

Source: Appendix J

As shown in Table 4.10-12, all of the available parking lots observed were at full capacity (100 percent) during the four observation periods during the event day and between 70 percent and 100 percent in capacity during non-event conditions.

Proposed New Fourth of July Fireworks Display Events

As mentioned, potential parking impacts associated with the proposed new Fourth of July fireworks display events along the National City and Chula Vista Bayfronts were determined based on the data collected during the sample Fourth of July Imperial Beach Fireworks Show, which were then correlated to the locations of the proposed new fireworks display events. Most of the observed parking facilities serving the viewing areas reached capacity on both the sample Fourth of July fireworks display event day and the non-event day, including daytime hours well in advance of the time of the fireworks display; therefore, the sample event's effect on parking could not be determined. However, because there was an observed increase in vehicular traffic at some locations on the day of the sample Fourth of July fireworks display event, it can be assumed that the parking demand increased as well. As such, it is anticipated that the proposed new Fourth of July fireworks display events would likely result in significant temporary impacts on parking facilities that would serve the viewing areas along the National City and Chula Vista Bayfronts (**Impact-TRA-2**).

As required with the implementation of **MM-TRA-1**, the proposed ordinance includes a condition of approval that would require implementation of an approved Event Transportation and Parking Management Plan for each proposed new Fourth of July fireworks display event to reduce potential congestion and parking impacts. The Event Transportation and Parking Management Plan, as required by **MM-TRA-1**, would include measures and tools to deal with parking, such as offsite parking arrangements, promotional programs with rideshare vendors, a joint event/transit ticketing program with MTS, and expanded shuttle operations, among others. With the implementation of an approved Event Transportation and Parking Management Plan, potential impacts on parking would be reduced.

Other Non-Fourth of July Fireworks Display Events

Sample Other Non-Fourth of July Fireworks Display Event

For the sample other non-Fourth of July fireworks display event, parking occupancy counts were conducted at six parking facilities within a quarter of a mile of the event location during the afternoon and evening (between 1:00 p.m. and 8:00 p.m.) to determine whether and when they reached capacity. Parking occupancy data were also obtained from the parking management companies who operate the paid public parking facilities within the area to provide a more substantial sample size for the data collection effort.

North Embarcadero

Parking at the North Embarcadero area is available in various public parking lots and along streets such as Harbor Drive to Pacific Highway. Table 4.10-13 displays parking occupancy observed at different times during the afternoon during both the sample other non-Fourth of July fireworks display event day and a typical summer Saturday.

Table 4.10-13. Sample Other Non-Fourth of July Fireworks Display Event and Non-Event Day Parking Occupancy: North Embarcadero

Parking Lot	1 p.m. to 2 p.m.		3 p.m. to 4 p.m.		5 p.m. to 6 p.m.		7 p.m. to 8 p.m.	
	Event	Non-Event	Event	Non-Event	Event	Non-Event	Event	Non-Event
Harbor Drive Surface Parking (in front of Solar Turbines)	100%	100%	100%	80%	100%	100%	100%	95%
Harbor Drive Surface Parking (in front of County Admin. Center)	100%	100%	100%	100%	100%	100%	100%	90%
G Street Pier Parking Lot	100%	100%	100%	100%	100%	100%	100%	80%
Navy Pier Parking Lot	100%	100%	100%	100%	100%	100%	100%	100%

Source: Appendix J

As shown in Table 4.10-13 above, all of the parking lots observed remained at full capacity (100 percent) during the four observation periods during the sample other non-Fourth of July fireworks display event, and ranged between 80 percent and 100 percent of capacity during non-event conditions.

Central (Seaport Village) and South Embarcadero

Parking was available at Seaport Village and in the Convention Center parking lots. Table 4.10-14 displays parking occupancy observed at different times during the afternoon during both the sample other non-Fourth of July fireworks display event day and non-event conditions.

Table 4.10-14. Sample Other Non-Fourth of July Fireworks Display Event and Non-Event Day Parking Occupancy: Central (Seaport Village) and South Embarcadero

Parking Lot	1 p.m. to 2 p.m.		3 p.m. to 4 p.m.		5 p.m. to 6 p.m.		7 p.m. to 8 p.m.	
	Event	Non-Event	Event	Non-Event	Event	Non-Event	Event	Non-Event
Seaport Village Parking Lot	100%	100%	100%	100%	100%	100%	100%	100%
Convention Center Parking Lot	85%	100%	85%	100%	85%	100%	85%	100%

Source: Appendix J

As shown in Table 4.10-14, the Seaport Village parking lot was observed at full capacity (100 percent) during the four observation periods, both during the event and under non-event conditions, while the Convention Center parking lot was observed at 85 percent capacity during the sample other non-Fourth of July fireworks display event day and at full capacity (100 percent) under non-event conditions.

Proposed New Other Non-Fourth of July Fireworks Display Events

As mentioned, potential parking impacts associated with the proposed new other non-Fourth of July fireworks display events along the Chula Vista Bayfront were determined based on the data collected during the sample other non-Fourth of July fireworks display event, which were then correlated to the locations of the proposed new displays. Most of the observed parking facilities serving the viewing areas reached capacity on both the sample other non-Fourth of July fireworks display event day and the non-event day; therefore, the sample event’s effect on parking could not be determined. However, because there was an observed increase in vehicular traffic on the day of the sample other non-Fourth of July fireworks display event, it can be assumed that the parking demand increased as well. As such, it is anticipated that the proposed new other non-Fourth of July fireworks display events would likely result in significant temporary impacts on the parking facilities that would serve the viewing areas (**Impact-TRA-2**).

As required with the implementation of **MM-TRA-1**, the proposed ordinance includes a condition of approval that would require implementation of an Event Transportation and Parking Management Plan for each proposed new other non-Fourth of July fireworks display event to reduce potential congestion and parking impacts. The Event Transportation and Parking Management Plan, as required by **MM-TRA-1**, would include measures and tools to deal with parking, such as offsite parking arrangements, promotional programs with rideshare vendors, a joint event/transit ticketing program with MTS, and expanded shuttle operations, among others. With the implementation of an Event Transportation and Parking Management Plan, potential impacts on parking would be reduced.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District’s tenants. The proposed ordinance does not propose any change in the number or nature of the existing fireworks display events. However, the proposed ordinance contains several conditions of approval to reduce potential environmental impacts,

including implementation of an Event Transportation and Parking Management Plan for public advertised fireworks display events. The Event Transportation and Parking Management Plan would assist in the provision of adequate parking during existing fireworks display events by including measures and tools to deal with parking, such as offsite parking arrangements, promotional programs with rideshare vendors, a joint event/transit ticketing program with MTS, and expanded shuttle operations, among others. Compliance with the proposed ordinance would improve the existing condition by reducing potential effects on parking during existing fireworks display events. As such, the effects of the proposed ordinance on existing fireworks display events would not result in an inadequate supply of parking. Therefore, no significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events have the potential to result in an inadequate supply of parking. Potentially significant impact(s) include:

Impact-TRA-2: Inadequate Parking Supply During Proposed New Fireworks Display Events. The proposed new fireworks display events have the potential to result in a temporary inadequate supply during the displays due to an increased demand on parking facilities serving the viewing locations. Potential impacts would be temporary, but are considered significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not result in an inadequate supply of parking. Therefore, no significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

Implement **MM-TRA-1** as described under Threshold 6.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

All parking-related significant impacts associated with the proposed new fireworks display events would be temporary in nature and would only occur on the day of the event (**Impact-TRA-2**). Mitigation measure **MM-TRA-1** requires implementation of the transportation-related conditions of the proposed ordinance, which require the fireworks organizer for each proposed new fireworks display event to implement an approved Event Transportation and Parking Management Plan to reduce potential congestion and parking impacts associated with the proposed new fireworks display events. The Event Transportation and Parking Management Plan, as required by **MM-TRA-1**, would include measures and tools to deal with parking, such as offsite parking arrangements,

promotional programs with rideshare vendors, a joint event/transit ticketing program with MTS, and expanded shuttle operations, among others. With implementation of an approved Event Transportation and Parking Management Plan, potential impacts on parking would be reduced. However, there are no metrics or tools available to quantify the effectiveness of the Event Transportation and Parking Management Plan in reducing parking impacts. Therefore, because the extent to which impacts would be reduced cannot be quantified, it cannot be determined with certainty that the impacts would be reduced to less-than-significant levels. Therefore, this analysis conservatively assumes that **Impact-TRA-2** is significant and unavoidable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No significant adverse impacts would occur.

5.1 Overview

This chapter considers the cumulative effects of past, present, and reasonably foreseeable future fireworks display events, development projects, and temporary special events and the proposed project's contribution to these effects. Past development projects are defined as those that were recently completed and are now operational. Past and present fireworks display events and temporary special events are defined as those that occurred during the year 2015, unless noted otherwise. Present development projects are defined as those that are under construction but not yet operational. Reasonably foreseeable future fireworks display events and temporary special events are defined as those that have historically reoccurred annually, and therefore are anticipated to continue to reoccur in the future. Reasonably foreseeable future development projects are defined as those for which a development application has been submitted or credible information is available to suggest that project development is a probable outcome at the time the Notice of Preparation was issued (September 2015).

Fourth of July Fireworks Display Events

With the incorporation of mitigation measures, the proposed new Fourth of July fireworks display events would result in less than cumulatively considerable contributions to impacts from past, present, and reasonably foreseeable future projects for the following resources.

- Air quality
- Biological resources

However, even with mitigation incorporated, the proposed new Fourth of July fireworks display events would result in cumulatively considerable and unavoidable contributions to impacts for the following resources.

- Water quality

The contribution of the proposed new Fourth of July fireworks display events to all other cumulative impacts would not be cumulatively considerable.

Non-Fourth of July Fireworks Display Events

With the incorporation of mitigation measures, non-Fourth of July fireworks display events associated with the proposed project would result in less than cumulatively considerable contributions to impacts from past, present, and reasonably foreseeable future projects for the following resources.

- Air quality
- Biological resources

However, even with mitigation incorporated, the proposed new non-Fourth of July fireworks display events would result in cumulatively considerable and unavoidable contributions to impacts for the following resources.

- Water quality

The contribution of the proposed new non-Fourth of July fireworks display events to all other cumulative impacts would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The incremental contribution of the effects of the proposed ordinance on existing fireworks display events for all cumulative impacts would not be cumulatively considerable.

Table 5-1 summarizes the significant cumulative impacts and mitigation measures discussed in Section 5.3, *Cumulative Impact Analysis*, below.

Table 5-1. Summary of Significant Cumulative Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Air Quality and Health Risk			
Impact-C-AQ-1: Emissions in Excess of Cumulative PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events	MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events with the Conditions of the Proposed Ordinance, which require the new Fourth of July fireworks display events to not exceed 400 pounds each. MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance, which require truck delivery to not exceed 3 minutes of idling.	Less than Cumulatively Considerable	Mitigation would reduce project-related emissions below cumulative thresholds.
Biological Resources			
Impact-C-BIO-1: Contribute to a Cumulatively Considerable Accumulation of Trash and Debris in Upland and Marine Habitats	MM-BIO-1: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts, which require specific packaging material, best management practices, compliance with San Diego Regional Water Quality Control Board General Permit, and compliance with other required permits	Less than Cumulatively Considerable	Mitigation would ensure that trash and debris are collected and disposed of and that the use of non-biodegradable fireworks components is limited. In addition, implementation of the cleanup, security, signage, and education measures would reduce the potential effects of human trespass and boating activity. Mitigation would reduce potential

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
	MM-BIO-2: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Indirect Impacts, which require cleanup, security, signage, and education measures		biological resources impacts to less than cumulatively considerable levels.
Hydrology and Water Quality			
Impact-C-WQ-1: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Fireworks Debris	MM-WQ-1: Implementation of the Water Quality-Related Conditions of the Proposed Ordinance, which require the use of alternative fireworks, specific packaging material, best management practices, compliance with San Diego Regional Water Quality Control Board General Permit, and compliance with other required permits	Cumulatively Considerable and Unavoidable	Mitigation would ensure that fireworks-generated debris is collected and disposed of to reduce potential water quality impacts. However, uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris. Impacts related to fireworks on surface waters would remain cumulatively considerable and unavoidable.
Impact-C-WQ-2: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Human-Generated Trash and Litter	MM-WQ-2: Implementation of the Water Quality-Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter, which require additional trash receptacles and cleanup at major viewing areas during publicly advertised fireworks display events	Less than Cumulatively Considerable	Mitigation would ensure that human-generated trash and litter are collected and disposed of to reduce potential water quality impacts to less than cumulatively considerable levels.

5.2 Cumulative Methodology

According to Section 15130(b) of the State CEQA Guidelines, cumulative impact analysis may be conducted using one of two methods: the List Method, which includes “a list of past, present, and probable future projects producing related or cumulative impacts”; or the Plan Method, which uses

“a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.” Because of the unique nature of the proposed project, which consists of both project- and program-level components, the cumulative impact analysis methodology employs both the List and Plan Methods, as further discussed below. Additionally, due to the regional effects of fireworks display events, which typically cater to local and visiting regional populations, utilization of the Plan Method is applicable, as the regional growth projections can be correlated to a potential increase in future spectators for the proposed new fireworks display events associated with the proposed project.

The proposed project consists of (1) an ordinance establishing a District Code section to govern existing and proposed new fireworks display events that require a discretionary action by the District or that are operated by the District’s tenants that occur within San Diego Bay and the Imperial Beach Oceanfront, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District.

5.2.1 Application of the List Method

As explained in Section 15130(b) of the State CEQA Guidelines, when utilizing the List Method, factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project, and its type. Location may be important, for example, when water quality impacts are an issue because projects outside the watershed probably would not contribute to a cumulative effect. Project type may be important when the impact is specialized, such as a particular air pollutant or mode of traffic. For a landside development project, the List Method generally involves consulting with the appropriate public agency having land use jurisdiction over the project site to obtain a list of the past, present, and reasonably foreseeable future development projects that would have the potential to contribute to cumulatively considerable related impacts when combined with the proposed project. The proposed new fireworks display events that would occur along the National City Bayfront and Chula Vista Bayfront do not require the construction of any landside or waterside support facilities. As such, the types of projects that would have the greatest potential to contribute to a cumulative effect when combined with the proposed project would be other fireworks display events that occur in and around San Diego Bay in the vicinity of the proposed new fireworks display events. Because of the regional effects of fireworks display events, this may also include other fireworks display events that occur in neighboring jurisdictions just outside of San Diego Bay, such as the Fourth of July fireworks display event that occurs along the Imperial Beach Oceanfront.

Through the Port Act, the State of California delegated its authority to the District to manage and control certain tidelands and submerged waters within five incorporated cities, including San Diego, Coronado, National City, Chula Vista, and Imperial Beach. Fireworks display events are conducted at various locations within and/or adjacent to District-controlled areas that are surrounded by these five cities. These fireworks display events occur throughout the year within and/or adjacent to the District’s jurisdiction in San Diego Bay and the Imperial Beach Oceanfront. In order to identify the existing fireworks display events, the District obtained copies of permits issued for all fireworks display events for the year 2015 that occurred in and around San Diego Bay and the Imperial Beach Oceanfront through consultation with the District’s five member cities. Agencies contacted include

the cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach, as well as the San Diego Regional Water Quality Control Board (SDRWQCB). Additionally, fireworks organizers for known fireworks display events were contacted, including the San Diego Symphony, NASSCO, and U.S.S. Midway Museum. As a result of this process, a total of 53 fireworks display events were identified that occurred in and around San Diego Bay and the Imperial Beach Oceanfront in 2015, all of which could contribute to a cumulative effect when combined with the proposed new fireworks display events. As such, these fireworks display events represent past and present fireworks displays for the purposes of this cumulative impact analysis. In addition, because some of these fireworks display events reoccur on an annual basis, they also represent reasonably foreseeable future displays. Each of these fireworks display events were issued a permit, such as a Special Event Permit from one of the District's five member cities, including their respective fire departments, and/or were granted coverage under the General National Pollutant Discharge Elimination System Permit for Residual Fireworks Pollutant Waste Discharges to Waters of the United States in the San Diego Region from the Public Display of Fireworks (No. R9-2011-0022) (General Permit) by SDRWQCB.

A majority of the existing fireworks display events that were identified during the consultation process either require a discretionary action by the District or are operated by the District's tenants. Some of the more prominent fireworks display events that were identified include the Big Bay Boom, Fourth of July Imperial Beach Fireworks Show, and Fireworks Show Over Glorietta Bay, along with other events sponsored by the District, the District's tenants, and other organizations. These other fireworks display events include those associated with the San Diego Symphony's Summer Pops concert series, U.S.S. Midway Museum, NASSCO Ship Repair Facility, and Our Lady of Rosary Church annual procession. It should be noted that these fireworks display events are also identified in Chapter 2, *Environmental Setting*, as the existing fireworks display events that would be governed by the proposed ordinance. These displays comprise 49 of the 53 total fireworks display events that were identified during the consultation process and considered in the cumulative impact analysis. In addition to the aforementioned displays, three other fireworks display events were identified that also occurred within San Diego Bay in 2015, as well as one display that occurred in 2014.¹ However, none of these displays required a discretionary action by the District. The 53 total fireworks display events are detailed in Tables 5-2 and 5-3, and were considered in the cumulative impact analysis provided in Section 5.3 below. It should be noted that the actual number of fireworks display events may fluctuate from year to year, as any number of additional fireworks display events could occur in San Diego Bay that are outside of the District's regulatory authority.

Additionally, there are a number of temporary special events that do not include a fireworks display that occur throughout the year around San Diego Bay and the Imperial Beach Oceanfront. These temporary special events occur within the District's jurisdiction and/or involve the use of District facilities around San Diego Bay and Imperial Beach. Temporary special events include, but are not limited to, 5K runs/walks, parades, fishing tournaments, fairs, and film, food, and music festivals. While no fireworks display events are included with these temporary special events, there is a potential that these events could occur on the same day as a proposed new fireworks display. As

¹ One barge-based fireworks display event associated with the Loew's Coronado Resort occurred in 2014. There were no events reported for 2015. However, this display was included because Loew's Coronado Resort historically has had fireworks display events in the past.

such, temporary special events that occur around San Diego Bay and Imperial Beach have the potential to produce related or cumulative impacts when combined with the proposed project in the event there is an overlap with the proposed new fireworks display events.

As mentioned, the proposed project does not require the construction of any landside or waterside support facilities to operate the proposed new fireworks display events along the National City Bayfront and Chula Vista Bayfront. However, although the proposed project does not involve any construction, either on land or in the water, there is a potential that past, present, and reasonably foreseeable development projects within the land use jurisdiction of the District or one of its five member cities surrounding San Diego Bay and Imperial Beach could produce related or cumulative impacts when combined with the proposed new fireworks display events. Consequently, the District's five member cities were consulted in order to obtain a list of cumulative development projects, with a specific focus on those projects that are located along the waterfront surrounding the Bay, as they would have the most potential to result in related or cumulative impacts due to their similar location as the proposed new fireworks display events. The list of past, present, and reasonably foreseeable development projects provides some context as to the development potential for all waterfront property surrounding San Diego Bay and along the Imperial Beach Oceanfront that could potentially contribute to a cumulative impact when combined with the proposed project. A list of these cumulative development projects is included in Appendix K. The List Method was applied to the cumulative impact analysis for aesthetics and visual resources; air quality and health risk; biological resources; greenhouse gas emissions, climate change, and energy; hazards and hazardous materials; hydrology and water quality; land use and planning; noise and vibration; public services and facilities; and transportation, circulation, and parking.

5.2.2 Application of the Plan Method

The Plan Method uses “a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.” In the San Diego region, the San Diego Association of Governments (SANDAG) serves as the regional transportation planning agency responsible for forecasting the region's population growth. These growth projections serve as the foundation for regional planning documents such as water supply management plans and general plans, and also provide the basis for determining housing, infrastructure, and transportation needs across the San Diego region. On October 13, 2013, the Series 13: 2050 Regional Growth Forecast was accepted by the SANDAG Board of Directors for planning purposes. The Series 13 Regional Growth Forecast represents a combination of economic and demographic projections, existing land use plans and policies, and potential land use plan changes that may occur in the region between 2030 and 2050. According to the Series 13 forecast, SANDAG projects the region's population will grow by approximately 710,000 people by 2035 and nearly one million people by 2050 (SANDAG 2013). The growth in population will drive job growth and housing demand within the region, adding nearly 500,000 jobs and more than 330,000 housing units by 2050. Over half of the growth in new housing is anticipated to occur in the City of San Diego, with growth continuing to thrive in the downtown area and spilling over into the neighboring Barrio Logan, Golden Hill, and Uptown communities (SANDAG 2013). The Plan Method was applied to the cumulative impact analysis for public services and facilities and transportation, circulation, and parking.

5.2.3 Cumulative Project Lists

Based on information obtained through consultation with SDRWQCB and the cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach, a total of 53 existing fireworks display events were identified for this analysis. The cumulative fireworks display events listed in Tables 5-2 and 5-3 all occurred in and around San Diego Bay and Imperial Beach during the year 2015 and were issued permits by the appropriate public agency (i.e., a Special Event Permit). The list of cumulative fireworks display events provided in Tables 5-2 and 5-3 represents the best estimate possible based on the current information available and accounts for only those fireworks display events for which the District received copies of permits as a result of consultation with the aforementioned agencies. However, given the uncertainty surrounding special events in general, the number of actual future fireworks display events in and around San Diego Bay and Imperial Beach may fluctuate from year to year depending on various factors such as the state of the economy and population growth. Nothing would preclude the occurrence of an additional number of future cumulative fireworks display events with those provided in Tables 5-2 and 5-3, as these fireworks display events are outside of the District's control. The cumulative analysis assumes that all event sponsors complied with any and all applicable federal, state, and local regulations and requirements governing fireworks display events, and that all fireworks display event organizers applied for, and received, all necessary permits from the appropriate regulatory agency.

The list for development projects was assembled based on the proposed ordinance and the new proposed fireworks display events. The ordinance has application baywide, so the District obtained a list of past, present, and reasonably foreseeable development projects from the cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach. However, because the proposed new fireworks display events would only occur along the National City and Chula Vista Bayfronts, the cumulative analysis considers impacts on all development projects geographically located within 1 mile of the Bayfronts of these cities. While the proposed new fireworks display events associated with the proposed project do not require the construction of any landside support facilities, there is a potential that these cumulative development projects could result in related or cumulative impacts when combined with the proposed project. A list of the cumulative development projects is provided in Appendix K.

Generally speaking, the geographic scope of the area affected by cumulative effects varies according to the issue area. The cumulative study area for each issue area is described further under the respective resource headings that follow.

Table 5-2. Cumulative Fireworks Display Events

Time of Year	Approximate Number of Cumulative Fireworks Display Events	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event (minutes)	Approximate Shell Size (inches)
January–March	7	<ul style="list-style-type: none"> • North Embarcadero 	4–10	2–6-inch
April–June	9	<ul style="list-style-type: none"> • South Embarcadero • North Embarcadero • NASSCO Ship Yard 	2–10	2–5-inch
July–September	31	<ul style="list-style-type: none"> • Shelter Island • Harbor Island • South Embarcadero • Central Embarcadero • North Embarcadero • Glorietta Bay • NASSCO Ship Yard • Imperial Beach Oceanfront 	15–20 (Fourth of July events) 2–10 (other non-Fourth of July events)	2–6-inch (other non-Fourth of July events)
October–December	6	<ul style="list-style-type: none"> • North Embarcadero • Loews Coronado Resort² 	3–10	2.5–6-inch
TOTAL	53¹			

¹ The total number of cumulative fireworks display events includes all displays that occurred in and around San Diego Bay and the Imperial Beach Oceanfront in 2015. The list of cumulative fireworks display events is based on consultation with the cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach, and SDRWQCB.

² Loews Coronado Resort did not have a fireworks display event in 2015; however, one barge-based fireworks display occurred in 2014.

Table 5-3. Characteristics of Cumulative Fireworks Display Events

Fireworks Display Event	Day of Event	No. of events	Duration (minutes)	Approximate Shell Size (inches)	No. of barges used per event
Big Bay Boom	Fourth of July	1	20	3-10	4
Fireworks Show Over Glorietta Bay	Fourth of July	1	15	3-10	1
Fourth of July Imperial Beach Fireworks Show	Fourth of July	1	19	3-10	0
Symphony Summer Pops Concert Display	non-Fourth of July	20	3-5	2-5	1
Our Lady of Rosary Church Annual Procession	non-Fourth of July	1	3	2.5	0
U.S.S. Midway Museum	non-Fourth of July	23	4-10	2-6	1
NASSCO Ship Repair Facility	non-Fourth of July	2	10	3-5	0
-Fireworks & Stage FX America, Inc./Allied PRA	non-Fourth of July	1	7	2.5-5	1
Walt Disney Studios Special Event ¹	non-Fourth of July	1	45 ²	2.5-6	1
Admiral Kidd Catering and Conference Center	non-Fourth of July	1	2	2-3	1
Loew's Coronado Resort	non-Fourth of July	1	3	2.5-5	1

¹ This fireworks display event was one-time event sponsored by Walt Disney Studios in conjunction with Comic-Con, which is an annual convention held at the San Diego Convention Center. San Diego Symphony sub-leased Embarcadero Marina Park South for this event during its regular concert season (June-September). The display consisted of a single barge positioned off Embarcadero Marina Park South in San Diego Bay.

² 45-minute duration provided in City of San Diego Special Event Permit Application; the actual duration of the fireworks display event wasn't specified.

5.3 Cumulative Impact Analysis

The discussion below evaluates the potential for the proposed project, including both Fourth of July fireworks display events and non-Fourth of July fireworks display events, to contribute to a cumulative adverse impact on the environment. For each resource area, an introductory statement is made regarding what would amount to a significant cumulative impact in a particular resource area.

The analysis that follows considers two separate impacts: (1) the significance of the cumulative effect from past, present, and reasonably foreseeable future fireworks display events, development projects, and temporary special events; and (2) in the event a cumulative effect is identified, the proposed project's incremental contribution to the identified cumulative effect. If it is determined

that the proposed project's contribution to the cumulative effect is considerable, a cumulatively significant impact is identified, and mitigation is imposed.

Based on the analysis provided in the Initial Study/Environmental Checklist (Appendix A), it was determined that the proposed project would not result in any significant impacts on agriculture and forestry resources, cultural resources, geology and soils, mineral resources, population and housing, recreational facilities, and utilities and service systems. In addition, it was determined that the proposed project would not have a significant impact on one or more aspects of the following resources: aesthetics; hazards and hazardous materials; hydrology and water quality; land use and planning; and transportation, circulation, and parking. Consequently, the proposed project would not have the potential to contribute to cumulative impacts related to these resources, and they are not discussed in the cumulative impact analysis below. Therefore, the cumulative analysis that follows addresses the incremental contribution of the proposed project to cumulative impacts associated with aesthetics and visual resources; air quality and health risk; biological resources; greenhouse gas emissions, climate change, and energy; hazards and hazardous materials; hydrology and water quality; land use and planning; noise and vibration; public services and facilities; and transportation, circulation, and parking. All of the aforementioned issue areas were analyzed using the List Method; however, the cumulative impact analysis for public services and facilities and transportation, circulation, and parking also utilized the Plan Method due to the potential additional cumulative effects of regional population growth on these resources.

5.3.1 Aesthetics and Visual Resources

A cumulatively considerable impact on aesthetics and visual resources would occur if the proposed project would contribute to a significant cumulative impact from the addition of a substantial amount of light and/or glare.

Geographic Scope

The geographic scope of analysis for cumulative aesthetics and visual resources impacts to which the proposed project may contribute includes the Port Master Plan (PMP) designated vista areas, or key public viewpoints, from which views of the proposed new fireworks display events and existing fireworks display events are available around San Diego Bay and the Imperial Beach Oceanfront, whether as part of a single view or a series of related views (e.g., a scenic route). The proposed new displays along the Chula Vista Bayfront would be visible from multiple designated vista points. The National City Bayfront only has one PMP designated vista area, located at Pepper Park adjacent to the Sweetwater Channel. In addition, the existing fireworks display events provided in Table 5-3 are visible from multiple designated vista points situated in the northern portion of San Diego Bay, as well as the Imperial Beach Oceanfront. As such, the visual impact analysis area generally encompasses public viewing sites along the Coronado Bayfront, San Diego Bayfront, Chula Vista Bayfront, National City Bayfront, and Imperial Beach Oceanfront.

Cumulative Effects

Fireworks Display Events

As noted in Table 5-2, a total of 53 past, present, and reasonably foreseeable future fireworks display events occur within and adjacent to San Diego Bay and along the Imperial Beach Oceanfront, not including the four proposed new displays associated with the proposed project, with the highest concentration of these (a total of 31) occurring during July through September. Fireworks are launched to a height where their light considerably exceeds the normal ambient lighting levels and creates brief, but very bright, flashes of light for the duration of the display and particularly during the finales when higher concentrations of fireworks are set off at one time. While some of these fireworks display events may overlap on the Fourth of July, most of these are single non-Fourth of July fireworks display events of short duration (no more than 10 minutes long) and involve the use of smaller shell sizes that reach shorter heights and result in smaller overall explosions when compared to the larger Fourth of July displays. While the light and glare generated by these fireworks displays is visible from nearby uses, including some residential uses and parks, the light and glare do not result in substantial spillover light onto nearby uses because they would not be so intense as to intrude into the structures to the point that typical nighttime activities would be disturbed (such as sleeping, watching television, etc.). In addition, light and glare generated by the fireworks diminish almost immediately, and any momentary interruption of nighttime views is almost immediately restored such that those uses are not permanently adversely affected. Therefore, a cumulatively significant aesthetics and visual resources impact from past, present, and reasonably foreseeable future fireworks display events would not occur.

Development Projects

Past development projects have changed the land in and around San Diego Bay and the surrounding downtown area, as well as the Imperial Beach Oceanfront, from a natural and undeveloped setting to an urban setting defined by high-rise structures with varying architectural finishes, ornamental landscaping, and lighting elements as seen today. Past development projects, along with present and future development projects, have and continue to include development at or near the waterfront that has cumulatively contributed to permanent sources of increased light pollution. Compliance with the District's PMP, Civic San Diego's design guidelines and Downtown Community Plan, the City of San Diego's Land Development Code, and the applicable design guidelines of the cities of Coronado, National City, Chula Vista, and Imperial Beach, including requirements to contain spillover light such that it does not affect adjacent land uses, would limit future glare and light impacts.

Therefore, although cumulative development projects have continued to change the Bayfront and downtown area to more urbanized settings, and reasonably foreseeable future projects would continue this path of development, changes from past, present, and reasonably foreseeable future projects have been and will continue to be designed in accordance with the existing viewshed regulations and design guidelines to limit glare and light impacts. Consequently, a cumulatively significant aesthetics and visual resources impact from past, present, and reasonably foreseeable future projects would not occur.

Temporary Special Events

Temporary special events within the geographic scope for aesthetics and visual resources include those occurring within the public parks and other public spaces, including roadways, adjacent to San Diego Bay and the Imperial Beach Oceanfront. To varying degrees depending on the event, special events would require setting up temporary structures, such as vendor kiosks, crowd control barricades, traffic cones, temporary stages, décor, etc. These temporary structures would generally be small structures that would not interfere with established vista areas or key observation points in the cumulative study area. While most of these events would occur during the day with all temporary structures being dismantled and removed before the nighttime hours, some of the events may require additional temporary nighttime lighting to be brought in. Depending on the location, some temporary nighttime light fixtures may result in some spillover onto adjacent uses, such as parks, residential uses, or roadways; however, nighttime lighting may be required to be down-shielded, and given the generally dense development of the areas surrounding San Diego Bay and the Imperial Beach Oceanfront, high levels of nighttime lighting already exist. The addition of temporary lighting for special events would not result in a substantial change in lighting, and, as such, a cumulatively considerable significant impact would not occur.

Summary of Combined Cumulative Effects

Even though the three sources of cumulative effects (fireworks display events, development projects, and temporary special events) do not individually contribute to a cumulatively considerable light and glare impact, the combined contribution of the three sources to lighting and glare conditions within the cumulative study area has the potential to be cumulatively considerable. However, the cumulative study area is located in an area with high levels of existing nighttime lighting, and the addition of these three sources would not result in a substantial change in lighting conditions in the study area. As noted above, light and glare associated with fireworks display events and development projects would not spill over onto adjacent land uses and, as such, do not have the potential to make a cumulatively considerable contribution to light and glare conditions. In addition, while lighting features associated with temporary special events were determined to have the potential for some spillover onto adjacent land uses, these light sources would be concentrated within a relatively small area and would be located at ground level, and any potential light spillover would occur on a temporary and infrequent basis. As such, they would not make a substantial contribution to light sources generated by development projects and fireworks display events such that a cumulatively considerable impact from the three sources combined would occur. As such, a cumulatively considerable significant impact from the combined cumulative effects would not occur.

Project Contribution

Proposed New Fireworks Display Events

The proposed new fireworks display events would result in less-than-significant impacts on aesthetics and visual resources, including light and glare. Light and glare from fireworks associated with the proposed new displays would not be sufficient enough to create a cumulatively significant impact where one does not currently exist. As discussed, the proposed new fireworks display events would be temporary and infrequent in nature and would not require the construction of any permanent structures that would block views in the area. Any light and glare created by the

fireworks dissipate almost immediately. Additionally, no existing fireworks display events occur in San Diego Bay adjacent to or along the National City Bayfront or Chula Vista Bayfront. As such, the less-than-significant contribution of light and glare produced by the proposed new fireworks display events would not rise to a level of being cumulatively considerable in combination with the cumulative fireworks display events, cumulative development projects, or any other temporary special events occurring in the vicinity of the new displays.

In addition, while it is possible for proposed new fireworks display events to overlap with temporary nighttime special events, additional sources of nighttime lighting for special events would be concentrated at the ground level near pedestrian activity. For safety reasons, fireworks display events would be located at a considerable distance from these ground-level lights and the light and glare produced by fireworks display events would occur at elevated heights. Therefore, given the distance between additional lighting provided for special events and the light produced by fireworks, there would not be any overlap in these sources of light and the combination of these temporary less-than-significant impacts on lighting would not rise to the level of being cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events that would create a cumulatively considerable new source of substantial light or glare. In addition, there are no cumulatively considerable significant light and glare impacts in the cumulative study area. Therefore, the effects of the proposed ordinance on existing fireworks display events would not contribute to cumulative aesthetics and visual resources impacts, and no cumulatively significant adverse impacts on lighting or glare would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The contribution of the proposed new fireworks display events to cumulative aesthetics and visual resources impacts would be less than cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not contribute to cumulative aesthetics and visual resources impacts, and therefore would be less than cumulatively considerable.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative aesthetics and visual resources impacts would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative aesthetics and visual resources impacts, and therefore would not be cumulatively considerable. Therefore, no cumulatively significant adverse impacts would occur.

5.3.2 Air Quality and Health Risk

Potential cumulative air quality impacts would result when cumulative projects' emissions would combine to degrade air quality conditions below attainment levels for the San Diego Air Basin (SDAB), delay attainment of air quality standards, affect sensitive receptors, or subject surrounding areas to objectionable odors. Neither the District nor the San Diego Air Pollution Control District (SDAPCD) has established quantitative thresholds to determine whether a project's incremental contribution to emissions would be cumulatively considerable. Therefore, the County of San Diego screening level thresholds (SLTs) for cumulative air quality impacts, based on the SDAPCD Rule 20.1 for non-major stationary sources, are used for the analysis of impacts related to emissions from the proposed project evaluated within the context of past, present, and reasonably foreseeable future projects. The substantial evidence for using the County's and SDAPCD's threshold levels for this project is contained within Section 4.2.4.2 of this Draft EIR.

Geographic Scope

Cumulative impacts on air quality and health risk can be regional or more localized at the neighborhood level. The SDAB, which covers 4,260 square miles of Southern California and is contiguous with San Diego County, represents the cumulative geographic scope for regional air quality impacts related to consistency with air quality plans and air quality threshold levels because plans and mass emission thresholds (e.g., County of San Diego SLTs in pounds per day) are established at the air basin-wide level to attain air quality standards that are assigned for the entire air basin, which in this case is the entire County. The geographic scope for cumulative impacts on sensitive receptors for both pollutant concentrations (e.g., National Ambient Air Quality Standards [NAAQS] and California Ambient Air Quality Standards [CAAQS]), health risk (e.g., from exposure to air toxics), and odors are considered at a more localized level (e.g., at specific receptor locations or the neighborhood level) due to the more limited area of dispersion, and include the surrounding neighborhoods and areas close to the source of the emission and odor sources, respectively. For example, specific receptor locations and neighborhoods immediately downwind of specific fireworks display events are potentially exposed to localized effects, including exceedances of ambient air quality standards as well as potential health risk from exposure to known air toxics.

Cumulative Effects

Fireworks Display Events

Past, present, and reasonably foreseeable future fireworks display events within the SDAB have involved the emissions of various criteria pollutants, consisting mostly of particulate matter 10 microns or less in diameter (PM₁₀), particulate matter 2.5 microns or less in diameter (PM_{2.5}), and minor amounts of ozone precursors (reactive organic gases [ROG] and nitrogen oxides [NO_x]) contributing to nonattainment status for 8-hour ozone under the NAAQS and nonattainment status for ozone, PM₁₀, and PM_{2.5} under the CAAQS. Therefore, the criteria pollutant emissions of concern within the SDAB are ozone precursors (ROG and NO_x), PM₁₀, and PM_{2.5}. The nonattainment status for the entire County is a consequence of all past and present projects and activity, including fireworks display events, and is potentially subject to continued nonattainment status by the cumulative contribution of reasonably foreseeable future fireworks display events within the project area, such as those listed in Table 5-2.

Past, present, and reasonably foreseeable future fireworks display events within the SDAB have also involved the emissions of various air toxics, including diesel particulate matter (DPM) from diesel-powered trucks for fireworks materials deliveries and tugs, volatile organic compounds (VOC) (including acetaldehyde, acrolein, and formaldehyde), polycyclic aromatic hydrocarbons, and metals (including chromium, copper, and lead) that are directly emitted from the various fireworks displays, contributing to background pollution levels near fireworks activities that represent some of the worst air quality in the state, as represented in the California Communities Environmental Health Screening Tool (CalEnviroScreen). Therefore, the toxic air contaminants (TACs) of concern near the cumulative study area are DPM, acetaldehyde, acrolein, formaldehyde, polycyclic aromatic hydrocarbons, chromium, copper, and lead. The existing pollution levels near (e.g., immediately downwind of) the cumulative study area are partially a consequence of past and present fireworks display events and experience increases from the cumulative contribution of reasonably foreseeable future fireworks display events within the cumulative study area, including those listed in Table 5-2.

Each of the past and present fireworks display events potentially contributes to short-term and localized criteria pollutants and air toxics (e.g., NAAQS and CAAQS exceedance and acute impact). Therefore, because past and present fireworks display events have contributed to the current nonattainment status for ozone (ROG and NO_x), PM₁₀, and PM_{2.5}, contribute to a portion of the background pollution in neighboring communities (e.g., immediately downwind of fireworks display events) resulting in air quality among the worst in the state, and reasonably foreseeable future fireworks display events would continue to contribute to the nonattainment status and potentially affect sensitive receptors, impacts related to the cumulative contribution of nonattainment pollutants (ozone precursors, PM₁₀, and PM_{2.5}) and the exposure of sensitive receptors to substantial pollutant concentrations and potentially adverse health effects would be considered cumulatively significant.

Development Projects

Past and present development projects within the SDAB have involved the emissions of various criteria pollutants contributing to current nonattainment status, resulting in pollution levels in the immediate vicinity of the project area that represent some of the worst air quality in the state. These

air quality conditions are a consequence of all past and present projects and activity, including nearby development projects, and are subject to continued nonattainment status from the cumulative contribution of reasonably foreseeable future development projects within the County, such as those provided in Appendix K.

As noted in Appendix K, there are various past, present, and reasonably foreseeable development projects in and around San Diego Bay, the surrounding downtown area, and the Imperial Beach Oceanfront. Therefore, because past and present projects have contributed to the current nonattainment status for ozone (ROG and NO_x), PM₁₀, and PM_{2.5}, and background pollution in neighboring communities, resulting in air quality among the worst in the state, and reasonably foreseeable development projects would continue to contribute to the nonattainment status and potentially affect sensitive receptors, impacts related to the cumulative contribution of nonattainment pollutants (ozone precursors, PM₁₀, and PM_{2.5}) and the exposure of sensitive receptors to substantial pollutant concentrations and potentially adverse health effects would be considered cumulatively significant.

Temporary Special Events

Temporary special events within the geographic scope for air quality and health risk would include those occurring within the public parks and other public spaces, including roadways, adjacent to San Diego Bay and the Imperial Beach Oceanfront. To varying degrees, special events require setting up temporary structures, such as vendor kiosks, crowd control barricades, traffic cones, and temporary stages, that generally result in minimal to no effects on regional and localized air quality. Some events may result in a few delivery truck trips to deliver and remove event equipment and minor traffic redistribution, but overall it is assumed that emissions and related air quality effects on both an individual and cumulative basis (e.g., all special events combined) are minor because they are limited to infrequent and temporary events. Thus, past and present special events do not contribute to the current nonattainment status for ozone (ROG and NO_x), PM₁₀, and PM_{2.5}. While air quality conditions in neighboring communities are among the worst in the state, past, present, and reasonably foreseeable special events would continue to contribute minor amounts of nonattainment pollutants (ozone precursors, PM₁₀, and PM_{2.5}) and the exposure of sensitive receptors to substantial pollutant concentrations and potentially adverse health effects would be considered less than cumulatively significant.

Summary of Combined Cumulative Effects

Past and present fireworks display events, development projects, and temporary special events have combined to contribute to the nonattainment status for 8-hour ozone, PM₁₀, and PM_{2.5} on a regional scale as well as the poor air quality on a localized scale within proximity of San Diego Bay, particularly the neighborhoods downwind (east/southeast) of terminal and shipbuilding operations in the central and southern portions of San Diego Bay. The largest cumulative fireworks display events, particularly those that currently occur on the Fourth of July, result in a short-term and localized contribution of criteria pollutants and air toxics (e.g., NAAQS and CAAQS exceedances and acute exposure to air toxics) similar to the proposed project's effects. These effects are infrequent and only last during and immediately after the fireworks display events, which occur mostly at night during the summer months.

The majority of the cumulative development projects shown in Appendix K would require construction and operations that would contribute emissions to the air quality setting. Construction of these development projects would be temporary and typically occur during daytime hours only and are thus unlikely to overlap with peak fireworks display event activity, which is mostly at night during the summer months. Each of these development projects potentially results in emissions that contribute both regional and localized effects in their vicinity, although the exact effects may be different than those associated with fireworks display events. For example, terminal operations at the Tenth Avenue Marine Terminal include mostly diesel-powered equipment, vehicles, and vessels that contribute nonattainment pollutants and air toxics (e.g., ozone precursors, PM10, PM2.5, and DPM) that have an effect on the region and nearby communities over the long term (e.g., all day, every day), whereas fireworks displays are short-term events that contribute nonattainment pollutants and air toxics (e.g., ozone precursors, PM10, PM2.5, and copper) that have an effect on the region and nearby communities infrequently for short durations (e.g., few days per year, few minutes per event). Similarly, temporary special events are generally short term and infrequent and result in minimal to no effects on regional and localized air quality, limited to some delivery truck trips to deliver and remove event equipment and minor traffic redistribution but, similar to the past and present fireworks display events, these special events tend to occur during off-peak times (e.g., nights and weekends) and do not involve the construction of permanent emission sources. However, because current air quality conditions (nonattainment status regionally and background TAC concentrations locally) are the result of all past and present emissions sources, past and present fireworks display events, development projects, and temporary special events all contribute to existing nonattainment and background TAC conditions.

Project Contribution

Proposed New Fireworks Display Events

As discussed under Threshold 2 of Section 4.2, *Air Quality and Health Risk*, and shown in Table 4.2-13, the proposed new Fourth of July fireworks display events would contribute emissions to the cumulative condition. The proposed new displays would result in an increase in criteria pollutant and air toxic emissions over existing conditions. The effects from past, present, and reasonably foreseeable future projects, including combined fireworks display events, development projects, and temporary special events effects, are considered cumulatively significant, and the proposed new fireworks display events' incremental contribution from operational emissions would result in a net increase in nonattainment pollutants when more than one proposed new display occurs on the Fourth of July. Consequently, the proposed new Fourth of July fireworks display events' incremental contribution to cumulative air quality impacts would be cumulatively considerable before mitigation (**Impact-C-AQ-1**). However, proposed project-related emissions associated with proposed new non-Fourth of July displays would be well below regional threshold levels for all pollutants. Therefore, the proposed project's incremental contribution during non-Fourth of July fireworks display events would be less than cumulatively considerable.

As discussed under Threshold 4 of Section 4.2, *Air Quality and Health Risk*, the proposed new Fourth of July and non-Fourth of July fireworks display events would contribute air toxics that would result in acute health effects far below the acute hazard threshold. Moreover, because health risk is a localized effect, these proposed new displays are in a different location than existing large events in the northern and central portions of San Diego Bay, as well as the existing Fourth of July fireworks

display event along the Imperial Beach Oceanfront. Therefore, any adverse effects from these proposed new displays would be experienced by a different set of receptors, and those effects are likely to be less than adverse. Consequently, the proposed project's incremental contribution to cumulative health risk impacts would not be cumulatively considerable.

As discussed under Threshold 1 of Section 4.2, *Air Quality and Health Risk*, the proposed new displays would not result in unanticipated growth, a change in land use designations, or emissions that would be inconsistent with the goals and strategies within the Regional Air Quality Strategy (RAQS) and State Implementation Policy (SIP), which are designed to bring the SDAB into attainment status for state and federal ozone standards. Therefore, although there is a cumulative impact from past, present, and reasonably foreseeable future fireworks display events, development projects, and special events resulting in nonattainment status for some criteria pollutants in the air basin, the proposed new fireworks display events' incremental contribution to cumulative air emissions would not conflict with progress toward attainment of the air quality standards described in the RAQS and SIP.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and, therefore, would not cause or contribute to a cumulatively considerable air quality or health risk impact. The proposed ordinance includes several conditions of approval pertaining to limiting emissions related to air quality, which would improve air quality relative to the existing condition. Therefore, although there is a cumulative impact from past, present, and reasonably foreseeable future fireworks display events, development projects, and temporary special events resulting in nonattainment status for some criteria pollutants in the air basin, the effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative air emissions and would not conflict with progress toward attainment of the air quality standards described in the RAQS and SIP because it would improve the existing condition. No cumulatively significant adverse impacts would occur.

Furthermore, the proposed ordinance includes conditions pertaining to reducing copper content in the fireworks, which would help to reduce acute health risk associated with the Big Bay Boom that would potentially affect new receptor locations. Compliance with the proposed ordinance would improve the existing condition by reducing copper in the fireworks of all applicable display events. Therefore, although there is a cumulative impact from past, present, and reasonably foreseeable future projects resulting in adverse health effects during the largest displays, the effects of the proposed ordinance on existing fireworks display events would not cause or contribute to cumulative health risk impacts, and would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The contribution of the proposed new Fourth of July fireworks display events to cumulative air quality and health risk impacts would be cumulatively considerable.

Impact-C-AQ-1: Emissions in Excess of Cumulative PM2.5 Thresholds During Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events.

Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County SLTs for PM2.5. The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by SDAPCD to attain the PM2.5 NAAQS and CAAQS.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not contribute to cumulative air quality and health risk impacts, and would be less than cumulatively considerable.

Mitigation Measures**Proposed New Fireworks Display Events**

For proposed new Fourth of July fireworks display events, the following mitigation measures shall be implemented.

Implement **MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events with Compliance with the Conditions of the Proposed Ordinance** and **MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance** as described in Section 4.2, *Air Quality and Health Risk*.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation**Proposed New Fireworks Display Events**

The contribution of the proposed new Fourth of July fireworks display events to cumulative air quality and health risk impacts would be less than cumulatively considerable with the implementation of **MM-AQ-1** and **MM-AQ-2** because mitigation would ensure that fireworks display event sizes would be limited to a level that would ensure the project's cumulative contribution of PM2.5 emissions would be below thresholds and require compliance with air quality-related conditions that would provide some reduction in emissions. The exact amount of emissions reduction provided by these conditions cannot be quantified due to many variables (precise existing and future idling times, etc.) but the reductions would be modest and would further reduce the less-than-significant impact after the implementation of mitigation measure **MM-AQ-1**.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not contribute to cumulative air quality and health risk impacts, and would be less than cumulatively considerable.

5.3.3 Biological Resources

A significant cumulative impact on biological resources would occur if the proposed project would contribute to cumulative impacts related to sensitive habitat or species, sensitive habitat/natural communities, federally protected wetlands, or wildlife movement corridors. The information contained in this section is based on the *Biological Technical Study for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project* prepared by Merkel & Associates (February 2017) found in Appendix F.

Geographic Scope

The geographic area for cumulative terrestrial biological resources impacts to which the proposed project may contribute includes all habitats adjacent to, or otherwise linked to, San Diego Bay. The geographic area for cumulative marine biological resources impacts includes San Diego Bay in its entirety. Past, present, and reasonably foreseeable future projects that could contribute to cumulative impacts on terrestrial and aquatic biological resources include fireworks display events, waterfront development projects with grading, paving, landscaping, road, and building construction of undeveloped land or otherwise with habitat present, and temporary special events adjacent to habitat around San Diego Bay. Marine organisms could be directly affected by fireworks display events that occur within San Diego Bay, as well as construction and/or operation activities in or along the water, including dredging, filling, and wharf demolition/construction. Untreated runoff from construction or operation activities on land into harbor waters via storm drains or sheet runoff also has the potential to contribute to cumulative impacts.

Cumulative Effects

Fireworks Display Events

A total of 53 past, present, and reasonably foreseeable future fireworks display events within San Diego Bay and along the Imperial Beach Oceanfront have occurred at various times throughout the year, with the greatest concentration of these displays (a total of 31) occurring from July through September. As such, a majority of the existing fireworks display events occur within the peak or end of the general avian breeding season, which extends from February 15 to September 15. With the exception of the Fourth of July Imperial Beach Fireworks Show, the 31 past, present, and reasonably foreseeable future fireworks display events that occur from July through September take place in the central and northern portions of San Diego Bay, which are generally characterized by deep (greater than -20 feet mean lower low water) and moderately deep (-12 to -20 feet mean lower low water) waters that are generally devoid of sensitive marine habitats such as eelgrass. As a result, any barge-based fireworks display events that occur in the central and northern portions of the Bay would not contribute to cumulative impacts associated with eelgrass habitat degradation or nursery habitat functions. In addition, because no fireworks display events currently occur in south San Diego Bay, where a majority of the eelgrass habitat of the Bay is located, there would be no cumulative effects on eelgrass or its nursery habitat functions from barge-based displays.

The fireworks display events that take place from July through September range in duration anywhere from 15 to 20 minutes for Fourth of July displays, and 2 to 10 minutes for non-Fourth of July displays. Large Fourth of July fireworks display events such as the Big Bay Boom, Fireworks

Show Over Glorietta Bay, and Fourth of July Imperial Beach Fireworks Show occur in the vicinity of sensitive nesting areas for four federally listed avian species. The various nesting sites for these federally listed species are within audible and visible range of these fireworks display events. In addition, the Big Bay Boom occurs in the vicinity of marine mammal haul-out areas in the northern portion of San Diego Bay. Some indirect effects of fireworks display events include spectator trespass into sensitive nesting habitats, such as those present within Silver Strand State Beach and along the beach of the Tijuana River National Estuarine Research Reserve, as well as vessel strikes with marine mammals from increased boating activities during the displays. These potential indirect effects are most common during Fourth of July fireworks display events due to their large spectator attendance and multiple viewing areas. Because these events only occur once a year, any potential indirect effects would occur temporarily and on an infrequent basis, and therefore would not contribute to cumulatively considerable indirect effects on federally listed species of the Bay. Similarly, any direct and indirect effects on sensitive species and habitat within any preserves and/or refuges designated in adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans would not be cumulatively considerable.

While fireworks display events have been ongoing in San Diego Bay and the Imperial Beach Oceanfront for many years, the sound and light exposure on avian species and marine mammals from ongoing fireworks display events potentially results in disturbances to these species. Stress from long-term and continuous cumulative sound exposures can potentially result in permanent behavior modification (e.g., avoidance of or abandonment of haul-out and nesting areas), as well as physiological effects on reproduction, metabolism, and general health. However, fireworks display events are short in duration and intensity, and there have been no studies completed that indicate injury or mortality of sensitive wildlife or decreased production associated with fireworks display events. Additionally, marine mammals and birds that utilize the northern portions of the Bay and Imperial Beach Oceanfront are habituated to high levels of human activity and regular loud noises from both commercial and military airports, as well as military and recreational watercraft. As such, because fireworks display events are infrequent and short term, and no substantial adverse long-term effects such as injury or mortality occur, the cumulative effects of fireworks noise and light on wildlife from past, present, and reasonably foreseeable future fireworks display events is considered less than cumulatively significant.

Other cumulative effects from past, present, and reasonably foreseeable future fireworks display events include an accumulation of trash and debris within the waters surrounding the display. Although the debris generated by the fireworks themselves is a contributor to the overall waste generated by fireworks display events, the primary source of trash and debris comes from secondary sources such as spectators. The high public presence in the area surrounding fireworks display events results in discharges of all forms of paper, plastic, food, and metal wastes. This secondary waste is coupled with the small contribution from fireworks-generated waste, which is composed of paper, aluminum, and plastic. The combination of trash and debris generated by fireworks themselves and spectators both on land and in the water can cause harm to fish, marine reptiles, birds, and marine mammals if ingested. Additionally, fireworks- and human-generated trash and debris could result in the degradation of sensitive habitat and wetlands if it accumulates within these areas. Due to the large number of past, present, and reasonably foreseeable future fireworks display events, the combined effect of all displays considered together would result in a cumulatively considerable waste load in the uplands and water due to the intensity of use of public

spaces. As such, the cumulative effects of past, present, and reasonably foreseeable future fireworks display events on biological resources related to fireworks- and human-generated trash and debris are cumulatively significant.

Development Projects

Past development projects have changed the land in and around San Diego Bay and surrounding downtown area, as well as the Imperial Beach Oceanfront, from a natural and undeveloped setting to a highly urbanized setting with high military, commercial, industrial, and recreational usage. The areas surrounding the Bay and the Imperial Beach Oceanfront continue to see an increase in urban density and intensity from recent past and present projects, and future projects appear to continue the area's urbanization. In addition, past development projects, along with present and future development projects, have and continue to include development at or near the waterfront that has cumulatively contributed to direct and indirect impacts on habitat and species of the Bay.

Consequently, the vast majority of sensitive habitat along the Bayfront, particularly in the northern and central portions of the Bay, is no longer present. However, there are still areas in the southern portion of the Bay that contain undeveloped wetlands and sensitive habitat. These areas include the Sweetwater River, Otay River, Chula Vista Wildlife Reserve, South San Diego Bay National Wildlife Refuge, and Telegraph Creek. As shown in Appendix K, there are a number of past, present, and reasonably foreseeable future development projects in south San Diego Bay, all of which could further reduce the amount and quality of available habitat surrounding the Bay.

However, present and future projects would be required to be consistent with the applicable city's Multiple Species Conservation Program (MSCP) Subarea Plan (if within the city's jurisdiction), the Chula Vista Bayfront Master Plan Natural Resources Management Plan (for future projects along the Chula Vista Bayfront) and the District's and U.S. Navy's Integrated Natural Resources Management Plan (INRMP), which identify important sensitive species and habitats in San Diego and in San Diego Bay targeted for preservation. Moreover, present and future projects also would comply with requirements of the Endangered Species Act, Migratory Bird Treaty Act, and Marine Mammal Protection Act, which contain regulations for the take of any listed species, migratory birds, and marine mammals, and would require that present and future projects avoid and/or mitigate potential impacts on these species.

Present and future projects do have the potential to further degrade water quality within the area and thus the existing marine habitat. However, specific regulations such as the Municipal Permit and the Industrial General Permit are in place that would minimize continued degradation of the existing marine habitat. For example, projects over 1 acre in size are required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), while projects smaller than 1 acre are still required to comply with the applicable water quality regulations and the District's Jurisdictional Runoff Management Plan (JRMP), depending on the jurisdiction within which the project would be located. The SWPPPs would identify short-term, project-specific best management practices (BMPs) for each project to minimize pollutants and/or sediments traveling via runoff, and long-term BMPs would be implemented based on the required Water Quality Control Plans using a combination of Site Design BMPs, Source Control BMPs, and Treatment Control BMPs. Implementation of both construction and operational BMPs would minimize harm to marine habitat from water runoff.

Therefore, cumulative biological resource impacts from past, present, and future development projects are considered less than cumulatively significant in the cumulative study area.

Temporary Special Events

There are a number of temporary special events that do not include a fireworks display that occur throughout the year around San Diego Bay and the Imperial Beach Oceanfront. These temporary special events occur within the District's jurisdiction and/or involve the use of District facilities. Temporary special events within the geographic scope for biological resources include those occurring adjacent to, or in the vicinity of, sensitive habitat surrounding San Diego Bay and along the Imperial Beach Oceanfront. To varying degrees depending on the event, special events would require setting up temporary structures, such as vendor kiosks, crowd control barricades, traffic cones, temporary stages, décor, etc. Through the required permitting process for each of these temporary special events, it is expected that these temporary structures would not be sited within any adjacent sensitive habitat. Because no fireworks display events are included with these temporary special events, the only source of nighttime lighting may include temporary nighttime light fixtures, depending on the location of the event, which may result in some spillover onto adjacent areas. However, the use of any nighttime lighting would be temporary and would not result in any adverse long-term effects on wildlife within any adjacent habitat. Therefore, cumulative biological resource impacts from past, present, and future temporary special events are considered less than cumulatively significant.

Summary of Combined Cumulative Effects

As noted above, past, present, and reasonably future development projects are required to be consistent with the applicable city's MSCP Subarea Plan (if within the city's jurisdiction), the Chula Vista Bayfront Master Plan Natural Resources Management Plan (for future projects along the Chula Vista Bayfront), and the District's and U.S. Navy's INRMP. These development projects also have been or would be required to comply with federal and state regulations protecting biological resources, including but not limited to the Endangered Species Act, Migratory Bird Treaty Act, and Marine Mammal Protection Act. Other specific regulations such as the Municipal Permit and the Industrial General Permit minimize the continued degradation of the existing marine habitat. Additionally, there are no aspects of temporary special events that would contribute to cumulative biological resources impacts, as these events are temporary and infrequent in nature and typically do not involve any activities that would substantially disturb habitat or wildlife. Therefore, past, present, and reasonably foreseeable future development projects and temporary special events do not contribute to a cumulatively considerable impact on biological resources. However, past, present, and reasonably foreseeable future fireworks display events result in an accumulation of trash and debris from both the fireworks themselves and secondary indirect sources such as spectators. Due to the large number of past, present, and reasonably foreseeable future fireworks display events, the combined effect of all displays considered together would result in a cumulatively considerable waste load in the adjacent uplands and in the water. Therefore, cumulative effects from past, present, and reasonably foreseeable future fireworks display events is cumulatively considerable.

Project Contribution

Proposed New Fireworks Display Events

The proposed new fireworks display events would occur in south San Diego Bay, adjacent to the National City and Chula Vista Bayfronts. The vast majority of the National City Bayfront is occupied by either U.S. Navy shipyards or the National City Marine Terminal. There are other industrial uses such as metal working businesses and boat repair facilities on the Bayfront. While there is no sensitive habitat along the National City Bayfront, it is close to the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, across from Sweetwater Channel. Large portions of the Chula Vista Bayfront are dedicated to wildlife reserves and marshes. Other uses include public parks, marinas, a recreational vehicle campground, a salt works operation, and a boat repair facility. Due to the relatively undeveloped nature of the southern portion of San Diego Bay, particularly in the vicinity of the Chula Vista Bayfront, wildlife species in this area are not likely as habituated to human activity compared to wildlife species present in the northern portion of the Bay. Other sensitive habitat in south San Diego Bay includes Otay River, Chula Vista Wildlife Reserve, and Telegraph Creek, as well as Silver Strand State Beach, which is used as nesting habitat by sensitive avian species such as the California least tern and western snowy plover.

As discussed under Thresholds 1, 2, and 3 of Section 4.3, *Biological Resources*, the proposed new fireworks display events would potentially result in direct impacts on marine reptiles, avian species, sensitive habitat, and wetlands present in south San Diego Bay from fireworks-generated trash and debris, and indirect impacts from increased human and boating activity. Additionally, the positioning of fireworks barges over the shallow flats during the proposed new displays could result in direct impacts on eelgrass and its nursery habitat functions, particularly at low tides. Additional impacts could occur from propeller wash or propeller drag from tugboats during barge maneuvering. However, because a vast majority of the past, present, and reasonably foreseeable future fireworks display events occur in the central and northern portions of the Bay, which is generally devoid of sensitive eelgrass habitat, the proposed new fireworks display events would not contribute to cumulatively considerable impacts on eelgrass habitat and its nursery habitat functions when considered together with the cumulative fireworks display events.

As mentioned, the debris from the fireworks themselves typically constitute a small contribution to the overall solid waste discharge associated with fireworks display events. Rather, the discharges result from a combination of factors, including high public presence in the area, and discharge of all forms of paper, plastic, food, and metal wastes. This secondary waste source is coupled with the added input from fireworks waste of paper, aluminum, and plastics. Collectively, these sources of waste create a discharge to the terrestrial and marine environment that can include some wastes that have been identified as having potentially high risk of harm to fish, birds, marine reptiles, and marine mammals, such as some larger plastic wastes like six-pack holders, plastic bags, and balloons. Based on the limited presence of marine mammals and lack of haul-out areas in the southern portion of the Bay, the proposed new fireworks display events are not expected to result in direct impacts from fireworks-generated trash and debris or result in disturbances to these species from increased noise and light associated with the displays, nor are they expected to result in indirect impacts from human and boating activity. Because a vast majority of the existing fireworks display events identified in Tables 5-2 and 5-3 occur in the northern portion of the Bay, the incremental contribution of the proposed new fireworks display events to cumulative impacts on

marine mammals would be less than cumulatively considerable. The additional four proposed new fireworks displays in south San Diego Bay would not be a significant waste contributor due to the infrequency of events, low volume of waste produced, small scale of waste remnants, and predominance of naturally degrading components like cardboard. However, the proposed new displays, when considered together with the 53 past, present, and reasonably foreseeable future fireworks display events, would result in a cumulatively considerable waste load in upland habitat areas and water due to the intensity of use of public spaces both on and off the water. As such, the proposed project's contribution to cumulatively considerable accumulation of trash and debris when combined with past, present, and reasonably foreseeable future projects is considered significant (**Impact-C-BIO-1**).

In addition, as discussed under Thresholds 5 and 6 of Section 4.3, *Biological Resources*, the proposed new fireworks display events would potentially conflict with the MSCP Subarea Plans for the cities of San Diego and Chula Vista, as well as the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. These potential conflicts would occur due to the potential direct and indirect impacts on wildlife and sensitive habitat associated with the proposed new fireworks display events. However, these potential direct and indirect impacts would be isolated to the preserves/refuges in the southern portion of the Bay, and would not contribute to any cumulative effects on any preserves/refuges in the central or northern portions of the Bay, where a majority of the 53 past, present, and reasonably foreseeable future fireworks display events are located. Therefore, the contribution of the proposed new fireworks display events to conflicts with adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans would not be cumulatively considerable.

Mitigation measures **MM-BIO-1** and **MM-BIO-2** require implementation of the biological resources-related conditions of the proposed ordinance for direct and indirect impacts. For **MM-BIO-1**, these conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of BMPs, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. **MM-BIO-2** requires implementation of the cleanup, security, signage, and education conditions of approval of the proposed ordinance. Implementation of **MM-BIO-1** and **MM-BIO-2** would reduce potential cumulatively significant direct impacts on habitat from fireworks-generated trash and debris and cumulatively significant indirect impacts on habitat from human trespass, increased boat traffic, and human-generated trash and debris to less-than-significant levels. Accordingly, the contribution of the proposed new fireworks display events to cumulative biological resources impacts when combined with past, present, and reasonably foreseeable fireworks display events, development projects, and temporary special events would be less than cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and therefore would not cause or contribute to a cumulatively considerable biological resources impact. The proposed ordinance includes several conditions of approval that would reduce potential impacts on biological resources. These conditions include implementation of

post-display cleanup practices consistent with the requirements of the General Permit, a reduction in the amount of non-biodegradable fireworks components that can be used, and security, signage, and education measures. In addition, the proposed ordinance includes conditions of approval that would reduce potential effects of fireworks-related noise and light. Compliance with the proposed ordinance would improve the existing condition by ensuring that fireworks-generated trash and debris are collected and disposed of and that the use of non-biodegradable fireworks components is limited, as well as reducing potential impacts of trespass, increased boat traffic, and human-generated trash and debris during fireworks display events on wildlife species, sensitive habitat, and wetlands. Additionally, compliance with the proposed ordinance would improve the existing condition by minimizing the disturbance experienced by wildlife species during fireworks display events and ensuring that noise and light from fireworks displays would not have any substantial adverse direct effects on wildlife. Therefore, the effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative biological resources impacts, and would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative biological resources impacts would be cumulatively considerable.

Impact-C-BIO-1: Cumulatively Considerable Accumulation of Trash and Debris in Upland and Marine Habitats. The proposed new fireworks display events have the potential to directly and indirectly contribute to a cumulatively considerable accumulation of trash and debris in upland and marine habitats when combined with past, present, and reasonably foreseeable future projects.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative biological resources impacts, and therefore would not be cumulatively considerable.

Mitigation Measures

Proposed New Fireworks Display Events

For proposed new Fourth of July fireworks display events, the following mitigation measures shall be implemented.

Implement **MM-BIO-1: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts** and **MM-BIO-2: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Indirect Impacts** as described in Section 4.3, *Biological Resources*, of this Draft EIR.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Implementation of mitigation measure **MM-BIO-1** requires implementation of the biological resources-related conditions of the proposed ordinance for direct impacts. These conditions of approval require the fireworks operator to remove and properly dispose of all packaging, a reduction in the amount of non-biodegradable fireworks components that can be used, implementation of BMPs, and compliance with SDRWQCB's General Permit, including post-fireworks display event cleanup of debris and solid waste. **MM-BIO-1** also requires the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan pursuant to SDRWQCB's General Permit. Implementation of **MM-BIO-1** would ensure that fireworks-generated trash and debris are collected and disposed of. Additionally, **MM-BIO-2** requires implementation of the cleanup, security, signage, and education conditions of approval of the proposed ordinance. Implementation of **MM-BIO-2** would ensure that significant indirect impacts from increased boat traffic, trespass, and human-generated trash and debris are reduced. With the implementation of mitigation measure **MM-BIO-1** and **MM-BIO-2**, the incremental contribution of the proposed new fireworks display events to cumulative biological resource impacts would be less than cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative biological resources impacts, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

5.3.4 Greenhouse Gas Emissions, Climate Change, and Energy

There would be the potential for a cumulatively considerable greenhouse gas (GHG)-related impact if the project would be inconsistent with the District's Climate Action Plan (CAP) reduction targets; inconsistent with regulatory programs outlined in the Scoping Plan and adopted by the California Air Resources Board (ARB) or other California agencies to reduce GHG emissions in 2020; inconsistent with the post-2020 reduction targets set forth through Senate Bill (SB) 32 and California Executive Order (EO) S-03-05; or inconsistent with plans, policies, and regulations promulgated to reduce GHG emissions post-2020. There would be the potential for a cumulatively considerable climate change impact if the project would expose property and persons to the physical effects of climate change including, but not limited to, flooding, public health risk, wildfire risk, or other impacts resulting from climate change. Finally, there would be the potential for a cumulatively considerable energy use-related impact if the project would contribute to a cumulatively significant impact related to the wasteful, inefficient, and unnecessary usage of direct or indirect energy.

Geographic Scope

Climate change is a cumulative issue, and the geographic scope for cumulative GHG emission impacts is global. Because climate change is the result of cumulative global emissions, no single project, when taken in isolation, can cause climate change—a single project’s emissions are insufficient to change the radiative balance of the atmosphere. Because climate change is the result of GHG emissions, and GHGs are emitted by innumerable sources worldwide, cumulative GHG emissions that contribute to global climate change will have a significant cumulative impact on the natural environment as well as on human development and activity. The global increase in GHG emissions that has occurred and will occur in the future is the result of the actions and choices of individuals, businesses, local governments, states, and nations. Furthermore, although climate change impacts will likely vary by geography and intensity, the impacts that will result from cumulative global emissions will be felt worldwide. The GHG and climate change analysis within Section 4.6, *Greenhouse Gas Emissions, Climate Change, and Energy*, is inherently a cumulative analysis. A summary of the discussion is provided below. Energy use is a regional issue and the geographic scope includes the service area of San Diego Gas and Electric (SDG&E).

Cumulative Effects

Fireworks Display Events

Past and present fireworks display events throughout the region, state, nation, and world, including but not limited to those fireworks display events within the SDAB listed in Table 5-2, have contributed to and will continue to contribute to the cumulative impacts of global climate change. As with the proposed project, all the fireworks display events in Table 5-2, along with all other development projects, special events, and fireworks display events within the county, state, and region, would be required to comply with all applicable federal, state, and local policies and regulations regarding GHG emission reductions (e.g., Assembly Bill [AB] 32, Pavley 1, Low Carbon Fuel Standard, SB 350) and adapting to climate change (e.g., sea-level rise [SLR]). As noted previously, GHG emissions from fireworks display events are minor and result in only a few metric tons of carbon dioxide equivalent per display. However, although minor, changes from past, present, and reasonably foreseeable future fireworks display events have contributed to and will continue to contribute to a cumulatively significant impact in the project vicinity.

In addition, past, present, and reasonably foreseeable fireworks display events throughout the region, state, nation, and world, including but not limited to those fireworks display events within the nearby area, have contributed to and will continue to contribute to cumulative impacts of energy demand. As with the proposed project, all fireworks display events, along with all other development projects and special events within the county, state, and region, would be required to comply with all applicable federal, state, and local policies and regulations regarding the wasteful, inefficient, or unnecessary use of energy. The energy use of the fireworks display events would be temporary and periodic. However, changes from past, present, and reasonably foreseeable future fireworks display events have contributed to and will continue to contribute to a cumulatively significant impact in the project vicinity.

Development Projects

Past, present, and reasonably foreseeable development projects throughout the region, state, nation, and world, including but not limited to those development projects within the SDAB and nearby areas provided in Appendix K, have contributed to and will continue to contribute to the cumulative impacts of global climate change. As with the proposed project, all the development projects in Appendix K, along with all other development projects, special events, and fireworks display events within the county, state, and region, would be required to comply with all applicable federal, state, and local policies and regulations regarding GHG emission reductions and climate change. However, changes from past, present, and reasonably foreseeable future development projects have contributed to and will continue to contribute to a cumulatively significant impact in the project vicinity.

Energy demand will continue to increase as accounts increase in SDG&E's service area and fuel demand increases in the region. However, on a project-by-project basis, energy demand is decreasing because of advances in energy technology and the cost-saving effects of using energy-efficient measures. Moreover, SDG&E will continue to increase its renewable energy mix as a percentage of its overall energy production, which will continue to provide reliable energy to present and future projects, and fuel supplies in the region will continue to increase as demand increases. Therefore, energy impacts from past, present, and reasonably foreseeable future development projects are not cumulatively significant.

Temporary Special Events

Past, present, and reasonably foreseeable special events throughout the region, state, nation, and world, including but not limited to those special events within the nearby area, have contributed to and will continue to contribute to the cumulative impacts of global climate change. As with the proposed project, all the special events, along with all other development projects and fireworks display events within the county, state, and region, would be required to comply with all applicable federal, state, and local policies and regulations regarding GHG emission reductions and climate change. However, changes from past, present, and reasonably foreseeable future special events have contributed to and will continue to contribute to a cumulatively significant impact in the project vicinity.

In addition, past, present, and reasonably foreseeable special events throughout the region, state, nation, and world, including but not limited to those special events within the nearby area, have contributed to and will continue to contribute to cumulative impacts of energy demand. As with the proposed project, all the special events, along with all other development projects and fireworks display events within the county, state, and region, would be required to comply with all applicable federal, state, and local policies and regulations regarding the wasteful, inefficient, or unnecessary use of energy. However, changes from past, present, and reasonably foreseeable future special events have contributed to and will continue to contribute to a cumulatively significant impact in the project vicinity.

Summary of Combined Cumulative Effects

Past, present, and reasonably foreseeable future fireworks display events, development projects, and special events have contributed to and will continue to contribute to the cumulative impacts of global climate change. GHG emissions are generated worldwide by all activities, including but not

limited to fireworks display events, development projects, and special events. All fireworks display events, development projects, and special events within the county, state, and region are required to comply with all applicable federal, state, and local policies and regulations regarding GHG emission reductions and climate change. The contribution from certain activities, including development projects, is larger than other activities, such as fireworks displays and special events.

In addition, past, present, and reasonably foreseeable fireworks display events, development projects, and special events have contributed to and will continue to contribute to cumulative impacts of energy demand. Energy is consumed worldwide by all activities, including but not limited to fireworks display events, development projects, and special events. All fireworks display events, development projects, and special events within the county, state, and region are required to comply with all applicable federal, state, and local policies and regulations regarding the wasteful, inefficient, or unnecessary use of energy. The contribution from certain activities, including development projects, is larger than other activities, such as fireworks displays and special events.

Project Contribution

Proposed New Fireworks Display Events

As discussed under Threshold 1 of Section 4.6, *Greenhouse Gas Emissions, Climate Change, and Energy*, the proposed new Fourth of July and non-Fourth of July National City and Chula Vista Bayfronts fireworks display events would contribute GHG emissions to the cumulative condition. However, annual project emissions would be minimal and result in emissions far below applicable screening thresholds, and would be consistent with plans, policies, and regulatory programs outlined in the Scoping Plan and adopted by ARB or other California agencies for the purpose of reducing the emissions of GHGs to meet 2020 targets. Furthermore, the project would be consistent with the state's overall post-2020 reduction targets identified in SB 32 and EO S-03-05, and would be in compliance with all plans, policies, and regulatory programs adopted by ARB or other California agencies for post-2020 for the purpose of reducing the emissions of GHGs. The effects from past, present, and reasonably foreseeable future projects are considered cumulatively significant, but the proposed new fireworks display events' incremental contribution of GHG emissions toward global climate change would be less than cumulatively considerable given that the project would result in minimal emissions and would be consistent with all local, regional, and state GHG reduction plans.

With respect to climate change impacts, the proposed project does not propose the construction of any structures that would redirect potential SLR flood flows, does not propose any significant increase in water consumption, aside from temporary consumption associated with spectators for the displays (restroom use, drinking), and viewing locations associated with the proposed project would only be inhabited temporarily. As such, the project's incremental contribution to cumulative SLR impacts would be less than significant.

With respect to energy, the proposed project would increase energy use primarily associated with fuel combustion from tug and delivery truck sources. However, no aspects of the proposed project would result in the use of energy in a wasteful, inefficient, and unnecessary manner, as sources are temporary, infrequent, and minor. Therefore, the project's incremental contribution to cumulative energy impacts would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

As discussed in Section 4.4, the proposed ordinance would govern fireworks display events that require a discretionary action by the District or are operated by the District's tenants. Also, the proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and therefore would not cause or contribute to a cumulatively considerable GHG, climate change, or energy impact. The proposed ordinance includes a condition of approval that limits idling emissions and the use of alternative fireworks that burn cleaner, which would reduce emissions relative to the existing condition. Therefore, although there is a cumulative impact from past, present, and reasonably foreseeable future cumulative fireworks display events, development projects, and special events resulting in global climate change, the effect of the proposed ordinance on existing fireworks display events would ensure that the proposed project's incremental contribution of GHG emissions toward cumulative climate change would not impede progress toward long-term reduction targets and would be consistent with plans, policies, and regulations aimed at achieving reduction targets, would not redirect potential SLR flood flows, and would not result in the wasteful, inefficient, and unnecessary consumption of energy. Therefore, the effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative GHG and climate change impacts, and would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative GHG emissions, climate change, and energy would be less than cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative GHG emissions, climate change, and energy, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative GHG emissions, climate change, and energy would be less than cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative GHG emissions, climate change, and energy, and therefore would be less than cumulatively considerable. No cumulatively significant adverse impacts would occur.

5.3.5 Hazards and Hazardous Materials

Cumulative impacts associated with fireworks-related hazards and hazardous materials could result when past, present, and reasonably foreseeable future projects, including fireworks display events, development projects, and temporary special events, combine to create a significant hazard to the public or environment and/or interfere with an adopted emergency response plan.

Geographic Scope

Cumulative impacts for fireworks-related hazards and hazardous materials are based on a list of past, present, and reasonably foreseeable fireworks display events that occur within and/or adjacent to San Diego Bay and the Imperial Beach Oceanfront, development projects that are currently underway, approved, or proposed and likely to be implemented in the area surrounding the Bay and Imperial Beach Oceanfront, and temporary special events not including a fireworks display.

Cumulative Effects

Fireworks Display Events

A total of 53 cumulative fireworks display events take place in locations around San Diego Bay and the Imperial Beach Oceanfront. These events are listed in Table 5-2, *Cumulative Fireworks Display Events*, above. These past, present, and reasonably foreseeable fireworks display events are required to comply with all applicable federal (including U.S. Department of Transportation Hazardous Materials Regulations [49 CFR 100–185]), state (including Title 19 of the CCR), and local regulations related to fireworks. In addition, each display occurs under the oversight of licensed firework operators and the responsible city's fire department to ensure that all hazardous materials associated with fireworks are used, stored, and disposed of properly. Furthermore, all fireworks display events are required to maintain a safety zone around the fireworks launch sites, which delineate the area in which public access is prohibited for safety purposes. Similarly, the ongoing implementation and updating of relevant Emergency Operations Plans and other existing procedures for special events such as fireworks displays ensures adequate response to emergencies and evacuation plans as firework display events occur, and reduces the potential for interfering with emergency response plans. Therefore, required compliance with existing federal, state, and local laws and regulations would ensure that the potential for a significant fireworks-related hazards and

hazardous materials impacts from past, present, and reasonably foreseeable future fireworks display events would be less than cumulatively significant.

Development Projects

Past development projects within the cumulative study area could have created a new source of hazardous materials or hazardous conditions during operations depending on the use and type of project, such as an industrial facility. Present and reasonably foreseeable future development projects could disrupt or result in the exposure of hazardous materials during construction activities; however, the risk for exposure to hazardous materials would be analyzed during the environmental review process for each individual project. For projects having the potential to disrupt or result in the exposure of hazardous materials, mitigation measures during construction would be included to reduce potential impacts to a level below significance. These projects are required to comply with all federal, state, and local laws and regulations regarding hazards and hazardous materials, including the Resource Conservation and Recovery Act of 1976, the U.S. Department of Transportation Hazardous Materials Regulations, and the local Certified Unified Program Agency regulations, which would reduce potential releases of hazardous materials into the environment. Types of development projects that have the potential to result in exposure of hazards and hazardous materials during operations include industrial and marine terminal projects proposed along the San Diego Bayfront. Because past, present, and reasonably foreseeable future cumulative development projects with potential to expose hazardous materials during construction and operation would be subject to federal, state, and local hazardous materials laws, cumulative effects related to hazardous materials from these projects would be less than cumulatively significant.

Temporary Special Events

There are a number of temporary special events that do not include a fireworks display that occur throughout the year around San Diego Bay and the Imperial Beach Oceanfront. These temporary special events occur within the District's jurisdiction and/or involve the use of District facilities. Because no fireworks display events are included with these temporary special events, there is a low potential that they would involve the use of hazardous materials that could result in exposure to the public or environment. While hazardous materials impacts would likely not occur, there is a potential that these types of events could generate vehicle, bicycle, and pedestrian traffic or result in roadway closures that could impair implementation of or physically interfere with emergency response near the special event areas. However, the ongoing implementation and updating of relevant Emergency Operations Plans and other existing procedures for special events would ensure adequate response to emergencies and evacuation plans as these special events occur, and reduce the potential for interfering with emergency plans. Additionally, depending on the type and magnitude of these special events, there is a potential that they would be required to implement some form of Event Transportation and Parking Management Plan to ensure adequate emergency response around the individual event location. Therefore, hazards and hazardous materials impacts from special events would be less than cumulatively significant.

Summary of Combined Cumulative Effects

As discussed above, hazardous material use associated with the sources of cumulative effects, including fireworks display events, development projects, and temporary special events, are governed by federal, state, and local regulations regarding transport, use, and disposal of hazardous materials. As such, cumulative effects related to hazardous materials from past, present, and reasonably foreseeable future projects would be less than cumulatively significant. In addition, as noted above, events such as fireworks display events and temporary special events implement procedures to ensure the protection and safety of the public during the events, and would not contribute to any existing cumulatively considerable safety hazard impact. Based on the above, a cumulatively considerable significant impact from the combined cumulative effects would not occur for hazards and hazardous materials.

Project Contribution

Proposed New Fireworks Display Events

The proposed project would result in less-than-significant impacts related to hazards and hazardous materials, including significant hazards to the public or environment and interference with an adopted emergency response plan. The new fireworks display events associated with the proposed project, including both Fourth of July and non-Fourth of July fireworks display events, would comply with all applicable laws and regulations such as the California Department of Forestry and Fire Protection's *Fireworks in California* handbook, and would occur under the oversight of licensed firework operators and the National City or Chula Vista fire department. Additionally, the proposed new fireworks display events would be governed by the proposed ordinance, which includes several conditions of approval such as post-display cleanup practices consistent with the General Permit, including collecting any unexploded fireworks and floating debris from spent fireworks. Fireworks displays are temporary in nature and would not require the construction of any permanent landside support facilities or residential structures. As such, it is not anticipated that the cumulative development projects identified in Appendix K would result in related or cumulative impacts when combined with the proposed new fireworks display events. While it is possible that gasoline, oil, and other vehicle-related fluids could be released by trucks on land during the transportation of pyrotechnic devices or by tugboats or other vessels in the water during operation of the proposed new fireworks display events, compliance with federal (including U.S. Department of Transportation Hazardous Materials Regulations [49 CFR 100–185]), state (including Title 19 of the CCR), and local regulations, in combination with oversight by licensed fireworks operators and responsible city fire departments, would ensure that all hazardous materials associated with fireworks are used, stored, and disposed of properly. Therefore, compliance with applicable laws and regulations would ensure that the proposed new fireworks display events would not result in hazardous emissions or the routine handling of hazardous or acutely hazardous materials, substances, or waste. Potential fireworks-related hazardous materials impacts from the proposed new displays would be minimized through existing regulations, limited use of hazardous materials, and oversight by licensed fireworks operators and the responsible city's fire department.

Regarding emergency response, both the National City and Chula Vista Fire Departments have existing procedures in place for ensuring adequate emergency access during special events such as a fireworks display event. While there are a number of cumulative fireworks display events that also

occur on the Fourth of July, including the Big Bay Boom, Fourth of July Imperial Beach Fireworks Show, and Fireworks Show Over Glorietta Bay, all of which could require emergency response services, the proposed new Fourth of July fireworks display events are located in different jurisdictions than these cumulative displays. As such, any potential impairment of emergency response within the cities of National City and Chula Vista as a result of the proposed new Fourth of July fireworks display events would not have an effect on emergency response in the cities of San Diego, Coronado, or Imperial Beach during their respective displays. Additionally, the San Diego Harbor Police Department (HPD) and U.S. Coast Guard (USCG) provide safety on the water during fireworks display events that occur in San Diego Bay, which would provide assistance to the emergency response providers of the District's member cities. Furthermore, the proposed ordinance includes a condition of approval that would require implementation of an Event Transportation and Parking Management Plan before, during, and after each proposed new fireworks display event, which would further alleviate congestion around the viewing locations and reduce the potential for delay that might impede emergency response times. However, there is a potential that temporary special events could overlap with the proposed new fireworks display events. These types of special events could generate vehicle, bicycle, and pedestrian traffic or result in roadway closures near the special event areas. In the event these temporary special events overlap with, and occur in the vicinity of, the proposed new fireworks display events, there is a potential that the overlap could impair implementation of or physically interfere with emergency response. As mentioned, the ongoing implementation and updating of relevant Emergency Operations Plans and other existing procedures for special events would ensure adequate response to emergencies and evacuation plans as these temporary special events occur, and reduce the potential for interfering with emergency plans. Additionally, depending on the type and magnitude of these special events, there is a potential that they would also be required to implement some form of Event Transportation and Parking Management Plan before, during, and after each temporary special event to further reduce impacts on emergency response around the individual event location.

Therefore, the proposed new fireworks display events' incremental contribution to cumulative fireworks-related hazards and hazardous materials impacts from past, present, and reasonably foreseeable future fireworks display events, development projects, or special events would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and does not include any conditions pertaining to fireworks-related hazards or hazardous materials above and beyond the federal, state, and local laws and regulations that currently exist and, therefore, would not make a cumulatively considerable contribution to an existing cumulative impact. The proposed ordinance does include several other conditions of approval, including implementation of an Event Transportation and Parking Management Plan, which would relate to public safety and emergency response by helping to alleviate congestion around existing displays and reduce the potential for delays for emergency response times. As such, the effects of the proposed ordinance on existing fireworks display events would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative fireworks-related hazards and hazardous

materials impacts, and would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events' incremental contribution to cumulative impacts associated with fireworks-related hazards and hazardous materials would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative impacts associated with fireworks-related hazards and hazardous materials, and therefore would not be cumulatively considerable. Therefore, no cumulatively significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events' incremental contribution to cumulative impacts associated with fireworks-related hazards and hazardous materials would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative impacts associated with fireworks-related hazards and hazardous materials, and therefore would not be cumulatively considerable. As such, no cumulatively significant adverse impacts would occur.

5.3.6 Hydrology and Water Quality

A significant cumulative impact on hydrology and water quality would result if the proposed project were to contribute to impacts related to water quality standard violations, depletion of groundwater supplies or interference with recharge, increased runoff in excess of available capacity, and alterations to drainage patterns leading to erosion or flooding evaluated within the context of past,

present, and reasonably foreseeable future projects, including fireworks display events, development projects, and temporary special events.

Geographic Scope

The geographic scope of analysis for cumulative impacts on hydrology and water quality includes the Pueblo San Diego, Sweetwater River, and Otay River hydrologic units of the San Diego Bay watershed, as well as the Tijuana Valley hydrologic unit of the Tijuana River watershed, which contributes pollutants to the Pacific Ocean Shoreline along Imperial Beach.

Cumulative Effects

Fireworks Display Events

Potential Impacts of Fireworks Chemical Residues on Surface Waters

A total of 53 past, present, and reasonably foreseeable future fireworks display events take place in locations around San Diego Bay and along the Imperial Beach Oceanfront. These fireworks displays events are listed in Table 5-2, *Cumulative Fireworks Display Events*, above. As discussed in Section 4.6, *Hydrology and Water Quality*, the results of the 4-year voluntary water quality monitoring program of the Big Bay Boom fireworks show indicate that perchlorate is the only chemical of concern that has shown a slight enrichment over ambient levels. Studies show that cumulative buildup of perchlorate can cause sublethal effects on freshwater fish in the 10 to 100 milligrams per liter (mg/L) range. However, concentrations of perchlorate measured in both Big Bay Boom and SeaWorld monitoring programs for the years 2013–2015 were generally in the 0.01–0.02 mg/L range, with the highest ambient levels of perchlorate measured in the 2016 Big Bay Boom at 6.4 mg/L, which is well below the 10 to 100 mg/L range found to cause sublethal effects on freshwater fish in laboratory tests. In addition, perchlorate is unlikely to accumulate in San Diego Bay and the Pacific Ocean Shoreline along Imperial Beach because the marine environment, with a mixing of tides and currents, is unlike enclosed environments (i.e., lakes) in which perchlorate has been shown to accumulate. Studies have also shown that perchlorate related to fireworks display events over land can build up in groundwater over time. However, groundwater is not a beneficial use in the fireworks display event areas.

SeaWorld has been performing extensive water and sediment quality monitoring, as well as a comprehensive assessment of the aquatic environment, since 2008. The results indicate that the fireworks fallout zone is not degraded in comparison with the reference sites. Although there appears to be enrichment of metals, this enrichment has not resulted in toxicity or benthic community degradation within the fallout zone.

The Big Bay Boom and SeaWorld fireworks display events are the most conservative from a water quality-monitoring standpoint (i.e., longest duration, most frequent, and greatest explosive weight) and both have been monitored extensively. The other fireworks display events are smaller in size and duration. Because neither of these studies has identified any long-term impacts on water quality or biological communities, and due to the limited and temporary nature of the other displays, impacts on surface water quality from these fireworks display events would be minimal. These additional fireworks display events are also required to comply with the conditions and BMPs set forth in the General Permit, which would ensure that fireworks-generated debris is properly cleaned

up and disposed of, thereby reducing the amount of unrecovered fireworks debris that could create or contribute substantial additional sources of polluted runoff and substantially degrade water quality. In addition, the existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants would be required to comply with the conditions of the proposed ordinance, which include the additional cleanup of fireworks-generated debris from existing fireworks display events. However, uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris related to fireworks on surface waters. Therefore, cumulative fireworks debris-related hydrology and water quality impacts from past, present, and reasonably foreseeable future fireworks display events would be cumulatively significant.

Potential Indirect Impacts of Increased Human-Generated Trash on Surface Waters

Increased human activity within the public viewing areas such as parks during a fireworks display event may result in an increase in human-generated trash and litter that if not properly disposed of and cleaned up can enter San Diego Bay and degrade the water quality. The District currently maintains parks and other public areas within its jurisdiction following large events such as a fireworks display event. This includes increased/additional trash cleanup and other maintenance services at affected parks within 24 hours following Fourth of July fireworks display events to minimize impacts from increased use of the parks that serve as viewing locations. Therefore, cumulative fireworks human-generated trash and litter-related hydrology and water quality impacts from past, present, and reasonably foreseeable future fireworks display events would be cumulatively significant.

Development Projects

Past projects within the Pueblo San Diego, Sweetwater River, and Otay River hydrologic units have contributed pollutants to San Diego Bay, while past projects within the Tijuana Valley hydrologic unit of the Tijuana River watershed have contributed pollutants to the Pacific Ocean Shoreline along Imperial Beach, as evidenced by the Clean Water Act Section 303(d) List of Water Quality Limited Segments Requiring Total Maximum Daily Loads. Current and future development projects would be subject to state and local regulatory standards that must be achieved during construction and operation to reduce or avoid polluted runoff to the maximum extent practicable. These current and reasonably foreseeable future projects also could contribute pollutants such as oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens into the stormwater conveyance system and receiving waters.

Some of the projects listed in Appendix K, *Cumulative Development Projects*, would involve at least 1 acre of grading. These projects would be required to comply with the National Pollution Discharge Elimination System Construction General Permit, which requires preparation of a SWPPP by a Qualified SWPPP Developer and implementation of BMPs by a Qualified SWPPP Practitioner to ensure runoff from individual projects meet current water quality standards. For projects under 1 acre, the Municipal Permit requires minimum BMPs for all construction and grading projects. The minimum BMPs are required to ensure a reduction of potential pollutants from the project site to the maximum extent practicable and to effectively prohibit non-stormwater discharges from construction sites to the municipal separate storm sewer system.

Also, present and reasonably foreseeable future projects would be subject to regulations that require compliance with water quality standards, including state and local water quality regulations and the District's JRMP and local BMP Design Manual (for projects within the District's jurisdiction) and any water quality BMP requirements of the District's member cities (for projects within that city's jurisdiction) to reduce the risk of non-stormwater discharges and pollutant discharges.

Because San Diego Bay and the Pacific Ocean Shoreline along Imperial Beach are currently impaired water bodies and have been for some time, the cumulative effect of past, present, and reasonably foreseeable future projects may result in a cumulatively significant water quality impact. However, the incremental increase in contaminant inputs to surface waters from development projects is minimal when compared to these other existing sources and would be less than cumulatively considerable.

Temporary Special Events

There are a number of temporary special events that do not include a fireworks display event that occur throughout the year around San Diego Bay and the Imperial Beach Oceanfront. These temporary special events occur within the District's jurisdiction and/or involve the use of District facilities. While no fireworks display events are included with these temporary special events, there is a potential that these types of events could produce polluted runoff or increased amounts of trash entering surface waters, which may contribute to a cumulatively significant water quality impact. These special events would be required to comply with all applicable laws and regulations. Additionally, due to the limited and temporary nature of these events, the cumulative impacts on surface water quality from these additional events would be minimal and would be less than cumulatively considerable.

Summary of Combined Cumulative Effects

As discussed above, the sources for cumulative effects are regulated by existing state and local water quality regulations that require the implementation of BMPs and other measures that would reduce water quality impacts. However, while each of the sources above individually would not constitute a cumulatively considerable impact, with the exception of fireworks debris, a cumulatively significant impact on hydrology and water quality presently exists because of the status of San Diego Bay and the Pacific Ocean Shoreline along Imperial Beach as impaired water bodies.

Project Contribution

Proposed New Fireworks Display Events

The proposed project includes up to four new fireworks display events conducted over water adjacent to the National City and Chula Vista Bayfronts, which have the potential to affect surface water quality in a number of ways, including through chemical residues that might fall back into surface waters during and after the fireworks display events and discharge of fireworks-related debris into surface waters from the launch sites and following shell detonation. Portions of San Diego Bay are currently considered impaired water bodies due to chemical contamination, toxicity, high bacteria levels, benthic impairments, and/or bioaccumulation in the water column and/or sediments. Cumulative water quality impacts could potentially occur if an incremental increase in chemicals that results from the proposed new fireworks display events contribute to or exacerbate

the impairments of these 303(d)-listed waterbodies. An analysis of the Big Bay Boom and SeaWorld water quality monitoring indicates that these proposed new fireworks display events likely do not result in a cumulative impact on surface waters in the 303(d)-listed segments. These two displays are the most conservative from a water quality-monitoring standpoint (i.e., longest duration, most frequent, and greatest explosive weight) and both have been monitored extensively. Neither of these studies has identified any long-term effects on water quality or biological communities.

Consequently, the incremental increase in contaminants to surface waters from the proposed new fireworks display events would be minimal when compared to other sources, such as surface runoff or legacy contamination. In addition, the four proposed new fireworks display events would not be expected to result in any negative effects on surface waters because of the relatively small weight of fireworks that are being proposed as well as the long distance from other fireworks display events (e.g., Big Bay Boom). While the incremental increase in contaminants to surface waters would not be cumulatively considerable, there is a potential that the proposed new fireworks display events could contribute to an accumulation of fireworks debris when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade surface water quality if fireworks debris is not properly cleaned up (**Impact-C-WQ-1**).

However, implementation of mitigation measure **MM-WQ-1** as identified in Section 4.6, *Hydrology and Water Quality*, which requires compliance with the water quality-related conditions of the proposed ordinance, would ensure that fireworks-generated debris is properly cleaned up and disposed of, thereby reducing the amount of unrecovered fireworks debris that could create or contribute substantial additional sources of polluted runoff and substantially degrade water quality. However, uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris related to fireworks on surface waters.

In addition, the proposed fireworks display events, when combined when combined with past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, have a potential to increase human-generated trash and litter at major viewing areas that if not properly disposed of or cleaned up could enter San Diego Bay and degrade water quality (**Impact-C-WQ-2**). Implementation of mitigation measure **MM-WQ-2**, which requires compliance with the water quality-related conditions of the proposed ordinance, would require additional trash receptacles and cleanup at the major viewing areas during publicly advertised fireworks display events to ensure that trash is properly disposed of and cleaned up, thereby reducing the amount of human-generated trash and litter entering San Diego Bay that could degrade the water quality. Furthermore, the District currently maintains parks and other public areas within its jurisdiction following large events such as a fireworks display event. This includes increased/additional trash cleanup and other maintenance services at affected parks within 24 hours following Fourth of July fireworks display events to minimize impacts from increased use of the parks that serve as viewing locations. As with existing fireworks display events, the District would continue to provide these maintenance services following the proposed new Fourth of July fireworks display events.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and includes several conditions of approval that would reduce impacts on

water quality, including requiring the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke, and reduce pollutant waste; removal of packaging; inclusion of biodegradable inner components; implementation of BMPs; compliance with SDRWQCB's General Permit requirements and other required permits; and implementation of post-display cleanup practices consistent with the requirements of SDRWQCB's General Permit. These conditions would require additional cleanup of fireworks-generated debris from existing fireworks display events, thereby reducing the potential for water quality degradation. Therefore, the effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative hydrology and water quality impacts, and would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The proposed new fireworks display events' incremental contribution to cumulative impacts related to hydrology and water quality would be cumulatively considerable.

Impact-C-WQ-1: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Debris. There is a potential that the proposed new fireworks display events could contribute to an accumulation of fireworks debris when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade surface water quality if fireworks debris is not properly recovered. Potential impacts on water quality would be cumulatively considerable.

Impact-C-WQ-2: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Trash and Litter. There is a potential that the proposed new fireworks display events could contribute to an accumulation of trash and litter in San Diego Bay when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade water quality. Potential impacts on water quality would be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative impacts related to hydrology and water quality, and therefore would not be cumulatively considerable. As such, no cumulatively significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

For proposed new Fourth of July fireworks display events, the following mitigation measures shall be implemented.

MM-WQ-1: Implementation of the Water Quality-Related Conditions of the Proposed Ordinance and MM-WQ-2: Implementation of the Water Quality-Related Conditions of the

Proposed Ordinance for Human-Generated Trash and Litter as described in Section 4.6, *Hydrology and Water Quality*.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

Implementation of mitigation measure **MM-WQ-1** requires compliance with the water quality-related conditions of the proposed ordinance, and would ensure that fireworks-generated debris is properly cleaned up and disposed of, thereby reducing the amount of unrecovered fireworks debris that could create or contribute substantial additional sources of polluted runoff and substantially degrade water quality. However, uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris related to fireworks on surface waters. Therefore, impacts would be cumulatively significant and unavoidable.

The contribution of the proposed new fireworks display events to cumulative degradation of water quality associated with human-generated trash and litter would be less than cumulatively considerable with the implementation of **MM-WQ-2**, because mitigation would require that additional trash receptacles and cleanup at major viewing areas occurs during publicly advertised fireworks display events to minimize impacts on surface waters from trash and litter.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative impacts related to hydrology and water quality, and therefore would not be cumulatively considerable. As such, no cumulatively significant adverse impacts would occur.

5.3.7 Land Use and Planning

Cumulatively considerable impacts from past, present, and reasonably foreseeable future projects, including fireworks display events, development projects, and temporary special events, are determined by whether there are cumulative inconsistencies with the applicable land use plans that have resulted or will result in significant physical impacts or by the past, present, or future physical division of established communities.

Geographic Scope

The geographic scope of analysis for cumulative land use and planning impacts to which the proposed project may contribute includes the PMP Planning Districts adjacent to the past, present, and reasonably foreseeable future fireworks display events, future development projects, and temporary special events located in the areas within and/or adjacent to San Diego Bay and the Imperial Beach Oceanfront.

Cumulative Effects

Fireworks Display Events

A total of 53 cumulative fireworks display events take place in locations around San Diego Bay and the Imperial Beach Oceanfront. These cumulative fireworks display events are listed in Table 5-2, *Cumulative Fireworks Display Events*, above. These fireworks displays originate from piers, flight decks, and/or barges adjacent to and/or in the waters of north San Diego Bay, including adjacent to Shelter Island, Harbor Island, and the Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), Glorietta Bay in Coronado, NASSCO ship repair facility, and the Imperial Beach Oceanfront. All of these cumulative displays take place either on barges within the waters of San Diego Bay or out over the waters of the Bay and Pacific Ocean from piers and/or flight decks. Fireworks display events within the coastal zone, whether in the California Coastal Commission's (CCC's) or the District's jurisdiction, are subject to the California Coastal Act. Certain aspects of existing fireworks displays occur within the District's jurisdiction (e.g., loading and setup of fireworks on barges), while other aspects of some fireworks displays (e.g., launching fireworks from barges) occur in waters of San Diego Bay, which are primarily outside the District's jurisdiction and are within the jurisdiction of the California State Lands Commission (CSLC). CCC retains coastal permitting authority over waters within CSLC's jurisdiction. Therefore, the District is responsible for determining whether a Coastal Development Permit is required for some fireworks display events, while CCC makes the Coastal Development Permit determination for other fireworks display events. Additionally, fireworks display events do not require the construction of any permanent landside or waterside support facilities that could result in inconsistencies with applicable land use plans, policies, or regulations, including applicable habitat conservation plans and natural community conservation plans, and would not physically divide an established community. As such, impacts from past, present, and reasonably foreseeable future fireworks display events have not been cumulatively significant.

Development Projects

Past development projects have been subject to local regulations governing land use decisions and have resulted in the development of highly urbanized areas surrounding San Diego Bay and along the Imperial Beach Oceanfront. The District's PMP, as amended, has been certified by CCC, and all past development projects within District boundaries have been approved pursuant to the certified PMP, ensuring review and general conformity with the coastal zone management program. Since adoption and certification of the current PMP, there have been cases where PMP amendments were required to implement various development projects. However, these amendments have undergone District review and environmental review and District approval and have been certified by CCC. Moreover, while there have been some projects that have affected upland connections to the waterfront, many have improved the connections. As a result, impacts from past projects have not been cumulatively significant.

Within the District's jurisdiction, public access and use of the waterfront continues to be a priority. Proposed projects are held to strict standards as related to public access and consistency with the PMP, and past development projects have been required to demonstrate adequate public access to the Bay and Imperial Beach. Present and reasonably foreseeable future development projects have been or will be required to demonstrate consistency with public access requirements of the PMP.

Where amendments to the PMP occur, it must be demonstrated that the amendment would result in an additional public benefit, often providing improved access to the waterfront. Therefore, past, present, and reasonably foreseeable future development projects would not result in a cumulatively significant land use and planning impact.

Temporary Special Events

There are a number of temporary special events that do not include a fireworks display event that occur throughout the year around San Diego Bay and the Imperial Beach Oceanfront. These temporary special events occur within the District's jurisdiction and/or involve the use of District facilities. To varying degrees depending on the event, special events would require setting up temporary structures, such as vendor kiosks, crowd control barricades, traffic cones, temporary stages, décor, etc. These temporary structures would generally be small structures that would be taken down following the event, and therefore would not divide an established community. Additionally, because these special events are temporary and infrequent in nature and do not require the construction of any permanent structures or uses, they would not result in any conflicts with applicable land use plans, policies, or regulations, including applicable habitat conservation plans and natural community conservation plans. Therefore, land use and planning impacts as a result of temporary special events would be less than cumulatively considerable.

Summary of Combined Cumulative Effects

Fireworks display events and special events are temporary and infrequent in nature and do not involve the construction of any permanent structures or uses that could physically divide an established community or result in conflicts with applicable land plans, policies, or regulations, including applicable habitat conservation plans and natural community conservation plans. There are no aspects of these types of cumulative projects that, when combined with past, present, and reasonably foreseeable future development projects, would result in cumulatively considerable land use and planning impacts. As such, a cumulatively considerable significant land use and planning impact from the combined cumulative effects would not occur.

Project Contribution

Proposed New Fireworks Display Events

The proposed new National City Bayfront and Chula Vista Bayfront fireworks display events would result in less-than-significant land use and planning impacts. As discussed under Threshold 2 of Section 4.7, *Land Use and Planning*, and shown in Table 4.7-1, the proposed new fireworks display events would be consistent with all applicable land use plans, policies, and regulations of the District, the agency with jurisdiction over the proposed project, adopted for the purposes of avoiding or mitigating an environmental effect. These include the PMP and San Diego Unified Port District Code. The proposed new fireworks display events would also be consistent with the applicable policies of the California Coastal Act, as shown in Table 4.7-2. In addition, as discussed under Threshold 3 of Section 4.7, *Land Use and Planning*, and shown in Tables 4.7-3, 4.7-4, and 4.7-5, the proposed new fireworks display events would be consistent with all applicable habitat conservation plans and natural community conservation plans, which include the Chula Vista Bayfront Master Plan NRMP, San Diego Bay INRMP, and San Diego Bay National Wildlife Refuge

Comprehensive Conservation Plan. In addition, the proposed new fireworks display events do not involve the construction of any permanent structures or uses that could physically divide an established community.

The cumulative effects on land use and planning from past, present, and reasonably foreseeable future projects, including fireworks display events, development projects, and temporary special events, are considered less than cumulatively significant. As such, because the proposed project would not divide an established community and would be consistent with all applicable land use plans, policies, or regulations, including habitat conservation plans and natural community conservation plans, the incremental contribution of the proposed new fireworks display events to cumulative land use and planning impacts would be less than cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and contains several conditions of approval that address issues such as air quality conditions, biological resources, water quality, and traffic that would improve the existing condition related to existing fireworks display events. Because the proposed ordinance would improve the existing condition in terms of the aforementioned resources, among others, it would be consistent with applicable land use plans, policies, and regulations of the District adopted for the purpose of avoiding or mitigating an environmental effect, including the PMP and San Diego Unified Port District Code. In addition, the proposed ordinance would be consistent with applicable habitat conservation plans and natural community conservation plans, including the San Diego Bay INRMP, Chula Vista Bayfront Master Plan NRMP, and San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan. Therefore, the effect of the proposed ordinance on existing fireworks display events would not conflict with an applicable habitat conservation plan or natural community conservation plan. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative land use and planning impacts would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative land use and planning impacts, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative land use and planning impacts would not be cumulatively considerable and would be less than significant.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative land use and planning impacts, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

5.3.8 Noise and Vibration

Cumulative impacts on noise and vibration could result when past, present, and reasonably foreseeable future fireworks display events, development projects, or temporary special events combine with the proposed project to contribute to impacts related to exceedances of noise standards, groundborne vibration, or ambient noise levels.

Geographic Scope

The study area for the cumulative noise impacts analysis is defined as all areas on or adjacent to the waterfront surrounding the entire San Diego Bay, as well as areas on or adjacent to the Imperial Beach Oceanfront. These areas represent the closest land uses to the existing and proposed fireworks display events that would be subject to the conditions of the proposed new ordinance. This includes large areas of San Diego, National City, Chula Vista, and Imperial Beach, and effectively the entire City of Coronado.

Cumulative Effects

Fireworks Display Events

A number of fireworks display events occur in the San Diego region throughout the year. As shown in Table 5-2, *Cumulative Fireworks Display Events*, a total of 53 past, present, and reasonably foreseeable future fireworks display events occur within and/or adjacent to the San Diego Bay and Imperial Beach Oceanfront, with a vast majority (50 of 53 displays) concentrated in the northern portion of the Bay. Specifically, the displays that occur in north San Diego Bay are in the vicinity of the cities of San Diego and Coronado. All of the past, present, and reasonably foreseeable future fireworks display events would be exempt from the local noise ordinances and their individual and cumulative impacts relative to local noise standards would not be significant. Noise from individual fireworks display events would be brief (generally between 5 and 20 minutes each), but would temporarily cause substantial noise increases at nearby noise-sensitive receptors. The largest noise increases from each display would occur at receivers closest to the launch location. At these most-

affected receivers, the fireworks noise levels would be dominated by the closest display and the cumulative effect of additional fireworks display events (such as those that occur simultaneously on the Fourth of July) would be minimal. Therefore, temporary or periodic noise increases due to past, present, and reasonably foreseeable future fireworks display events would not result in cumulatively considerable impacts.

The Transportation Assessment (Appendix J) indicates that local streets in the vicinity of existing fireworks display events experience modest increases or even small decreases in traffic volumes relative to days without fireworks displays. This includes data for the Fourth of July, when multiple displays occur simultaneously. Therefore, there would be only modest and temporary traffic noise increases, and traffic noise from past, present, and reasonably foreseeable future fireworks display events would not result in any cumulatively considerable impacts.

Development Projects

Construction of new developments would create short-term temporary construction noise that would typically be restricted to daylight hours only. Operational noise from past, present, and reasonably foreseeable future development projects would come from increases in long-term traffic volumes as well as onsite sources such as parking lots and mechanical equipment. Such noise sources could incrementally increase the local ambient noise levels in the vicinity of each development. If two or more development projects with overlapping construction activity or simultaneous operational noise were to occur close to noise-sensitive receptors, their associated noise levels could combine to exceed noise standards or to cause or exacerbate significant increases in ambient noise. Therefore, depending on the location and timing of past, present, and reasonably foreseeable future development projects, they may result in cumulatively considerable impacts.

Temporary Special Events

Temporary special events within the geographic scope for noise include those occurring within the public parks and other public spaces, including roadways, adjacent to San Diego Bay and the Imperial Beach Oceanfront. The days, times, and locations of these events would vary throughout the area. Because the special events do not typically generate very high noise levels, the potential impact distances for each event would be localized to the surrounding area. As a result, noise from multiple special events would not typically overlap to affect the same noise-sensitive receptor(s) simultaneously and past, present, and reasonably foreseeable future temporary special events would not result in any cumulatively considerable noise impacts.

Summary of Combined Cumulative Effects

Past, present, and reasonably foreseeable future fireworks display events are exempt from the local noise ordinances and would not combine to significantly exacerbate noise increases beyond those already experienced due to individual fireworks display events, and therefore do not have the potential to contribute to cumulative noise impacts within the geographic scope for noise. Past, present, and reasonably foreseeable future development projects within the geographic scope for noise may result in cumulatively considerable impacts, depending on the timing of construction and their location relative to other projects and noise-sensitive receptors. Noise from past, present, and reasonably foreseeable future special events would not typically overlap to affect the same noise-

sensitive receptor(s) simultaneously, and would therefore not result in any cumulatively considerable noise impacts.

Project Contribution

Proposed New Fireworks Display Events

The project proposes to add two new Fourth of July fireworks display events in San Diego Bay. The closest existing fireworks display event to the proposed new National City fireworks display event would be the Glorietta Bay (Coronado) display more than 2.5 miles to the northwest. The closest existing fireworks display event to the proposed new Chula Vista fireworks display event would be the Imperial Beach display more than 3 miles to the south. (The two proposed fireworks display events themselves would be separated by a distance of approximately 2 miles.) All of these fireworks display events would be exempt from the local noise ordinances and their individual and combined effects relative to local noise standards would not be cumulatively considerable. Noise from individual fireworks display events would be brief (generally between 5 and 20 minutes each), but would temporarily cause substantial noise increases at nearby noise-sensitive receptors. The largest noise increases from each display would occur at receivers closest to the launch location. At these most-affected receivers, the fireworks noise levels would be dominated by the closest display and the cumulative effect of additional fireworks display events (such as those occurring simultaneously on the Fourth of July) would be minimal. At more distant receivers that are located between launch locations for simultaneous proposed and cumulative fireworks display events, noise levels would be influenced by both. The largest cumulative increase in noise levels would be 3 A-weighted decibels (dBA) and would occur at locations where the noise contribution from the proposed project is equal to that of the simultaneous cumulative projects (refer to Section 4.8.2.1 for an explanation of decibels and how they are added). At other locations, receivers would experience greater direct noise levels from either proposed or cumulative fireworks display events and the increases as a result of combining the two would be smaller. The maximum cumulative increase of 3 dBA is generally considered to be a barely noticeable increase. As a result, the proposed project's contribution to cumulative Fourth of July fireworks noise impacts would be less than cumulatively considerable.

Non-Fourth of July fireworks display events that are proposed as part of the project would only occur in Chula Vista. These display events would be exempt from the local noise ordinances and their cumulative impacts relative to local noise standards would not be significant. Proposed non-Fourth of July fireworks display events are not expected to occur simultaneously with any other large or nearby fireworks display events, in which case there would be no contribution to cumulative impacts. In the event that either of the proposed non-Fourth of July fireworks display events were to coincide with another display, the worst case cumulative noise increase would be 3 dBA, which is generally considered to be a barely noticeable increase. As a result, the proposed project's contribution to cumulative non-Fourth of July fireworks noise impacts would be less than cumulatively considerable.

As discussed above, under *Cumulative Effects*, increases in traffic volumes in the local vicinity of existing fireworks display events are modest, and would not generate substantial noise increases. Assuming similar traffic patterns would occur at proposed fireworks display events, and because the proposed events would occur in distinct new locations, large distances from existing fireworks

display events, the traffic effects from proposed fireworks display events would not combine with those from other fireworks display events and the proposed project's incremental contribution to cumulative traffic noise impacts would be less than cumulatively considerable.

Past, present, and reasonably foreseeable future development projects would not add any fireworks display events or alter the existing or proposed fireworks display events. Construction of new developments would create short-term temporary construction noise, but this would typically occur during daylight hours and would not overlap with any proposed fireworks display events. Operational noise from development projects would be very different in level and nature from fireworks noise and would not share the same sporadic, impulsive, and high noise level characteristics. As a result, the relative effect of noise from development projects at receivers substantially affected by fireworks would be negligible during a fireworks display event. The proposed project's contribution to cumulative noise impacts related to past, present, and reasonably foreseeable future development projects would be less than cumulatively considerable.

Past, present, and reasonably foreseeable future temporary special events do not include fireworks and do not have the same distinctive noise profile (including high short-term noise levels and with large potential impact distances) as the proposed fireworks display events. In addition, many of these special events occur during the daytime and would not overlap at all with fireworks display events that occur in the evening. As a result, the relative effect of any noise from special events at receivers substantially affected by fireworks would be negligible during a fireworks display event and the proposed project's contribution to cumulative noise impacts related to past, present, and reasonably foreseeable temporary special events would be less than cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and contains several conditions of approval intended to limit impacts on sensitive biological resources (refer to Section 4.3, *Biological Resources*, of this Draft EIR) that would result in some reduction of noise associated with the fireworks display events. These conditions would require the fireworks display events to avoid the use of salutes within the first quarter of a fireworks display event and to either be located outside a 1-mile radius from sensitive habitats or to limit maximum shell size to 8 inches. It is not anticipated that any of the existing fireworks display event launch locations would be moved as a result of the ordinance. Consequently, the noise levels from existing fireworks display events would remain largely unchanged except for potential abatement (reduction) that would occur as a result of limiting shell sizes and salutes. As such, compliance with the proposed ordinance would not create any new impacts or worsen any of the impacts that have already been identified, and the contribution of the effects of the proposed ordinance on any cumulative noise impact would be less than cumulatively considerable. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The contribution of the proposed new fireworks display events to cumulative noise impacts would be less than cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not contribute to cumulative noise impacts, and therefore would be less than cumulatively considerable.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative impacts related to noise would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative noise impacts, and would be less than cumulatively considerable. No cumulatively significant adverse impacts would occur.

5.3.9 Public Services and Facilities

Cumulative impacts on public services and facilities—including fire and emergency services, police protection, and other public services and facilities—could result when past, present, and reasonably foreseeable future fireworks display events, development projects, or temporary special events combine with the proposed project to increase demand on public services and facilities such that additional facilities must be constructed to maintain acceptable levels of service, and the construction of such facilities could result in a physical impact on the environment.

Geographic Scope

Cumulative impacts on public services and facilities are based on a list of past, present, and reasonably foreseeable future fireworks display events that occur within and/or adjacent to San Diego Bay and the Imperial Beach Oceanfront, development projects that are currently underway, approved, or proposed and likely to be implemented in the area surrounding the Bay and Imperial Beach Oceanfront, and temporary special events in the vicinity of the proposed new fireworks display events along the National City Bayfront and Chula Vista Bayfront. The geographic scope includes the public services and facilities within the municipalities that provide services for these different cumulative projects and the proposed new fireworks display events associated with the proposed project.

Cumulative Effects

Fireworks Display Events

A total of 53 cumulative fireworks display events take place in locations around San Diego Bay and the Imperial Beach Oceanfront. These events are listed in Table 5-2, *Cumulative Fireworks Display Events*, above. Due to the infrequent and temporary nature of the cumulative fireworks display events, it is likely that the cumulative impacts on public services and facilities from these displays would be minimal. Additionally, each jurisdiction establishes and implements a response plan specific to each fireworks display event in order to maintain effective response times, particularly during Fourth of July events. Furthermore, all fireworks display events are required to comply with all federal, state, and local laws and regulations governing fireworks, including but not limited to the laws and regulations set forth in the *Fireworks in California* handbook (Appendix C), which is enforced by the responsible city fire department with jurisdiction over each display, as well as any special event permit requirements of the individual fire departments. Therefore, impacts on public services and facilities as a result of past, present, and reasonably foreseeable fireworks display events would be less than cumulatively considerable.

Development Projects

Past development projects have required new and expanded facilities as demand for public services has increased. Present and reasonably foreseeable future projects will continue to increase demand on public service providers and the need for new and expanded facilities. The reasonably foreseeable future development projects listed in Appendix K involve similar uses that already exist throughout the cumulative study area; however, development of these could result in thousands of square feet of commercial space (including meeting and convention space) and a significant number of residential units, hotel rooms, commercial space, and institutional uses. As discussed earlier in this section, according to the Series 13 forecast, SANDAG projects that the region's population will grow by approximately 710,000 people by 2035 and nearly one million people by 2050.

Police protection services would increase as present and reasonably foreseeable future projects are implemented. However, unlike fire and emergency services where specific facilities are needed to house equipment, vehicles, and response personnel to adequately respond to fires and emergencies, police services use patrol cars that do not need to have facilities in the immediate vicinity of specific projects. Rather, police departments increase staffing as necessary to maintain acceptable service ratios and response times. Thus, although there may be a need to increase personnel and equipment, there would not be the similar need to increase physical facilities in the cumulative study area. Additionally, development impact fees are often used to offset the external costs imposed by development projects on public services and facilities, including police protection services. Therefore, impacts on police protection services as a result of development projects would be less than cumulatively considerable.

The District's five member cities continue to construct new fire stations to meet increased demands as the population grows. For example, in the City of San Diego, Fire Station 47 was placed in service February 2008 and Fire Station 51 was placed in service August 2015 (City of San Diego 2016). In addition, new residential and non-residential developments are required to pay development impact fees to fund expansion of public facilities such as fire stations in order to maintain existing

levels of service. As such, fire and emergency protection services would potentially require additional facilities as a result of present and reasonably foreseeable future development projects, the construction of which could have significant environmental impacts. Therefore, cumulative fire protection impacts from these projects would potentially be significant.

Potential cumulative impacts could also result when development projects combine to place limitations on existing HPD and USCG facilities, or substantially increase demand on existing HPD and USCG facilities, such that expansion of those facilities would be necessary and result in a physical impact on the environment. Similar to municipal police departments, HPD increases staffing as necessary to maintain acceptable service ratios and response times rather than construct additional facilities. Additionally, USCG is responsible for ensuring the safety and security of navigable waters such as San Diego Bay, as well as along the Pacific Ocean coastline. As such, landside residential, commercial, and industrial development projects would not create a demand on USCG services. Consequently, cumulative impacts on HPD and USCG services and facilities from present and reasonably foreseeable future projects would be less than cumulatively considerable.

Temporary Special Events

There are a number of temporary special events that do not include a fireworks display event that occur throughout the year around San Diego Bay and the Imperial Beach Oceanfront. These temporary special events occur within the District's jurisdiction and/or involve the use of District facilities. While no fireworks display events are included with these temporary special events, there is a potential that these types of events could produce temporary increases in population near the special event areas. However, these special events would be required to comply with all applicable laws and regulations and special response plans, including additional staffing, which are implemented by police and fire to maintain adequate service during these events. Additionally, due to the infrequent and temporary nature of these special events, it is likely that the cumulative impacts on public services would be minimal. Therefore, impacts on public services and facilities as a result of temporary special events would be less than cumulatively considerable.

Summary of Combined Cumulative Effects

The region's population is projected to grow by approximately 710,000 people by 2035 and nearly one million people by 2050. Past development projects have required new and expanded facilities as demand for public services has increased. Present and reasonably foreseeable future projects will continue to increase demand on public service providers and the need for new and expanded facilities, the construction of which could result in significant environmental impacts. Fireworks display events and special events are temporary and infrequent in nature, and do not involve the construction of any permanent landside or waterside support facilities. Therefore, these types of events would not require the permanent construction of any new or expanded police, fire, HPD, or USCG facilities to maintain acceptable service ratios and response times. Although fireworks display events and special events would temporarily increase the demand for public services, they would not result in the same long-term demand created by increased population growth and the past, present, and future development projects to support that growth. However, because cumulative development projects would result in a cumulatively considerable impact on fire and emergency protection services, the combined effect of fireworks display events, development projects, and temporary special events would be cumulatively significant.

Project Contribution

Proposed New Fireworks Display Events

A project's contribution to a cumulative public services impact is relative to the additional demand a project would place on a public service for which a cumulatively considerable impact has been identified, and whether that demand would require the construction of new or expanded facilities that could result in significant environmental impacts.

The proposed project includes up to four proposed new fireworks display events along the National City and Chula Vista Bayfronts. The proposed new fireworks display events would result in temporary increases in population near viewing areas for each proposed new display, which would temporarily increase the demand for police, fire, HPD, and USCG services. However, the proposed new firework displays are infrequent and temporary in nature and would not require the construction of any permanent landside support facilities or residential structures that would permanently increase the demand on public services and facilities. In addition, special response plans, including additional staffing, would be implemented by the National City and Chula Vista police and fire departments to maintain adequate service during the proposed new displays, and new fireworks display events would not require new or expanded facilities, the construction of which could cause significant environmental impacts. Additionally, the proposed new fireworks display events would be required to comply with all federal, state, and local laws and regulations governing fireworks, including but not limited to the laws and regulations set forth in the *Fireworks in California* handbook (Appendix C), which is enforced by the responsible city fire department with jurisdiction over each display, as well as any special event permit requirements of the National City or Chula Vista fire departments. Therefore, while past, present, and reasonably foreseeable future fireworks display events, development projects, and temporary special events may result in cumulatively considerable impacts, the proposed new fireworks display events' incremental contribution to cumulative public services and facilities impacts would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and does not include any conditions related to public services and facilities, including police protection, fire protection, and HPD and USCG services above and beyond the federal, state, and local laws and regulations that currently exist and, therefore, would not result in any effects on the cumulative condition in terms of these services. As such, the effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative public services and facilities impacts and require the construction of new or expanded facilities in order to maintain acceptable service ratios, response times, or other performance objectives. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The incremental contribution of proposed new fireworks display events to cumulative impacts related to public services and facilities would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative public services and facilities impacts, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative impacts related to public services and facilities would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative public services and facilities impacts, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

5.3.10 Transportation, Circulation, and Parking

Cumulative impacts on transportation, circulation, and parking could result when past, present, and reasonably foreseeable future fireworks display events, development projects, and temporary special events combine with the proposed project to result in unacceptable roadway, intersection, or freeway ramp operations; inadequate pedestrian or bicycle facilities; inadequate mass transit capacity and lowered service; or inadequate parking supply.

Geographic Scope

The geographic scope for cumulative transportation, circulation, and parking impacts includes all transportation facilities west of Interstate 5 that provide access to the viewing areas for the

proposed new fireworks display events that would occur adjacent to the National City and Chula Vista Bayfronts.

Cumulative Effects

Fireworks Display Events

A number of fireworks display events occur in the San Diego region throughout the year. As shown in Table 5-2, *Cumulative Fireworks Display Events*, a total of 53 past, present, and reasonably foreseeable future fireworks display events occur within and/or adjacent to San Diego Bay and the Imperial Beach Oceanfront, with a vast majority (50 of 53 displays) concentrated in the northern portion of the Bay. Specifically, the displays that occur in north San Diego Bay are in the vicinity of the cities of San Diego and Coronado, with viewing areas for the fireworks display events within those municipalities. These displays likely contribute to temporary increases in traffic volumes along the roadway facilities and pedestrian and bicycle facilities that provide access to the various fireworks viewing areas. For fireworks display events that occur on the Fourth of July, it is anticipated that the temporary vehicular, pedestrian, and bicycle traffic volumes are substantially increased when compared to a non-Fourth of July fireworks display event. However, there are no past or present fireworks display events along the National City or Chula Vista Bayfronts. In addition, there are no reasonably foreseeable future fireworks display events in these areas other than the fireworks display events included in the proposed project. Because the effects of traffic associated with fireworks display events is typically localized to the transportation facilities in the vicinity of the fireworks viewing areas, past, present, and reasonably foreseeable future fireworks display events do not contribute to cumulative transportation, circulation, and parking impacts in the cumulative traffic study area.

Development Projects

Past development projects have contributed to degraded roadway, intersection, and freeway operations throughout the San Diego region. Present and reasonably foreseeable future projects will continue to increase traffic volumes on transportation facilities. Development of the projects listed in Appendix K could result in thousands of square feet of commercial space (including meeting and convention space) and a significant number of residential units, hotel rooms, commercial space, and institutional uses. As discussed earlier in this section, according to the Series 13 forecast, SANDAG projects that the region's population will grow by approximately 710,000 people by 2035 and nearly one million people by 2050. This projected increase in growth will further contribute to degraded operations on regional transportation facilities.

Within the cumulative traffic study area, past and present development projects in National City have created an area characterized predominantly by industrial, military, and marine-industrial-related uses along the Bayfront. Reasonably foreseeable future development projects in the National City Bayfront area will generally continue the trend of developing marine-related uses; however, the PMP also identifies new public access and water-oriented educational, recreational, and commercial uses along the Bayfront (District 2012). Past, present, and reasonably foreseeable future development projects in the National City Bayfront area, whether industrial or commercial, have and will continue to contribute vehicle trips on the surrounding existing and future roadway network.

In the Chula Vista Bayfront area, past and present development projects have resulted in a mix of uses, including industrial, open-space, parkland, and marine-recreational uses. The Chula Vista Bayfront Master Plan is intended to guide the development of approximately 556 acres of the Bayfront over a 24-year period (District 2012), and identifies the reasonably foreseeable future development projects that would likely be constructed in this area. The plan proposes to redevelop underutilized and vacant areas with a mix of uses, along with a new roadway and infrastructure system throughout the planning district. Future proposed development includes hotel and conference facilities, retail/entertainment, cultural (museums and similar uses), and marine-related office. The certified Chula Vista Bayfront Master Plan EIR identified a number of significant direct and cumulative traffic impacts associated with buildout of the Bayfront, several of which are significant and unavoidable after mitigation (District 2008). As such, development of past and present projects, as well as development of the future projects identified in the Chula Vista Bayfront Master Plan, have and will continue to contribute additional vehicle trips on the surrounding existing and future roadway network.

Therefore, past, present, and reasonably foreseeable future development projects within the cumulative traffic study area have resulted in cumulatively considerable impacts on transportation, circulation, and parking.

Temporary Special Events

Temporary special events within the geographic scope for transportation, circulation, and parking include those occurring within the public parks and other public spaces, including roadways, adjacent to San Diego Bay in the cities of National City and Chula Vista. To varying degrees depending on the event, special events require setting up temporary structures, such as vendor kiosks, crowd control barricades, traffic cones, temporary stages, décor, etc. On some occasions, these special events require the temporary closure of roads, which requires traffic to be redistributed onto other roadways. Temporary special events generate parking demand and vehicle trips as a result of event setup and takedown, as well as from attendees attending and commuting to and from the event. While special events may temporarily generate additional vehicle trips and require the redistribution of traffic, these events are temporary and infrequent in nature and would not create a permanent source of additional congestion on area roadways. In addition, these events are subject to the special event requirements of the cities of National City and Chula Vista, which require traffic control plans if deemed necessary. Therefore, cumulative transportation, circulation, and parking impacts from temporary special events would not be cumulatively considerable.

Summary of Combined Cumulative Effects

Past, present, and reasonably foreseeable future fireworks display events currently do not occur in the vicinity of the National City or Chula Vista Bayfronts, and therefore do not have the potential to contribute to cumulative transportation, circulation, and parking impacts within the cumulative traffic study area. However, past, present, and reasonably foreseeable future development projects within the cumulative traffic study area have resulted in cumulatively considerable impacts on transportation, circulation, and parking within the National City and Chula Vista Bayfronts. As the Chula Vista Bayfront is built out in accordance with the Chula Vista Bayfront Master Plan, future development projects will generate additional daily vehicle trips on the surrounding roadway network. The certified Chula Vista Bayfront Master Plan EIR identified a number of significant direct

and cumulative traffic impacts associated with buildout of the Bayfront, several of which are significant and unavoidable after mitigation. Even though past, present, and reasonably foreseeable future temporary special events within the cumulative traffic study area have and would continue to generate parking demand and vehicle trips, and occasionally require temporary road closures, the traffic added by these events is temporary and infrequent. These types of events are also subject to the special event requirements of the cities of National City and Chula Vista, which require traffic control plans if deemed necessary. Therefore, because of the temporary and infrequent nature of traffic and parking demand generated by past, present, and reasonably foreseeable future temporary special events, temporary special events would not contribute to cumulatively considerable transportation, circulation, and parking impacts when combined with the new permanent, long-term vehicle trips and changes in travel patterns associated with development projects.

Project Contribution

Proposed New Fireworks Display Events

As discussed under Thresholds 1, 6, and 7 of Section 4.10, *Transportation, Circulation, and Parking*, both the proposed new Fourth of July and non-Fourth of July fireworks display events are anticipated to generate increased volumes of vehicle, pedestrian, and bicycle traffic and increased parking demand. The increase in vehicle, pedestrian, and bicycle activity would likely result in higher conflicts between these modes of travel at intersection points, resulting in temporary congestion, ultimately affecting vehicle circulation on adjacent roadway facilities serve the viewing locations along the National City and Chula Vista Bayfronts. In addition, these conflicts between the modes of travel would have the potential to temporarily decrease the performance and safety of the roadway, pedestrian, and bicycle facilities because the intersections and pedestrian and bicycle facilities adjacent to the new fireworks display event viewing areas may not be designed to accommodate this level of conflict between the modes of travel.

As discussed above, projected regional population growth and past, present, and reasonably foreseeable future development projects within the cumulative traffic study area have and will continue to contribute to degraded operations on regional transportation facilities, resulting in cumulatively considerable impacts on transportation, circulation, and parking. The vehicle trips and parking demand generated by cumulative development projects are permanent and result in long-term changes in travel patterns and congestion. These additional trips typically occur during AM and PM peak hours. Although the proposed new fireworks display event would generate additional vehicle trips and parking demand, this increase would be temporary and occur on a very infrequent basis (only four times per year). In addition, the proposed new fireworks display events would occur at night during off-peak hours, and therefore would be outside of the normal commuting period. Furthermore, the proposed new fireworks display events would all be required to comply with the applicable special event guidelines of their respective cities. These special event guidelines require that fireworks display events obtain any necessary special event and/or special event-related permits, and require the implementation of traffic control plans as necessary. Traffic control would be conducted by either police department staff or individuals certified in traffic control by the police department. These existing procedures are in place to facilitate vehicular, bicycle, and pedestrian movement and ensure that pedestrians and bicyclists are safely accommodated, thus reducing the potential for conflicts between the modes of travel at intersection points. Therefore, because the

traffic and parking demand from the proposed new fireworks display events would be short term and infrequent in nature, occur during off-peak travel hours, and comply with the existing special event procedures of the cities of National City and Chula Vista, the contribution of the proposed new displays to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable.

Furthermore, the proposed ordinance includes a condition of approval that requires implementation of an Event Transportation and Parking Management Plan for the proposed new fireworks display events, which would include transportation demand strategies, such as providing event traffic control and promoting the use of public transit. The Event Transportation and Parking Management Plan would further reduce potential conflicts between different modes of transportation by facilitating the movement of vehicular, pedestrian, and bicycle traffic, thereby improving circulation. The Event Transportation and Parking Management Plan would also include measures and tools to deal with parking, such as offsite parking arrangements, promotional programs with rideshare vendors, a joint event/transit ticketing program with Metropolitan Transit System, and expanded shuttle operations, which would further reduce the temporary increase in parking demand.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The proposed ordinance does not propose any changes in the number or nature of existing fireworks display events and includes a condition of approval that addresses transportation, circulation, and parking in relation to fireworks display events. The effects of the proposed ordinance on existing fireworks display events would improve the existing condition by requiring implementation of an Event Transportation and Parking Management Plan. The Event Transportation and Parking Management Plan will include transportation demand and parking management strategies, such as providing event traffic control and promoting the use of public transit. This would help to safely accommodate additional pedestrian and bicycle traffic and alleviate congestion around the individual fireworks displays. Compliance with the proposed ordinance may improve the existing condition by improving circulation and safety on the roadway network surrounding existing fireworks display events. As such, the effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative transportation, circulation, and parking impacts, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Level of Significance Prior to Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative transportation, circulation, and parking impacts, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Mitigation Measures

Proposed New Fireworks Display Events

No mitigation is required.

Effects of Proposed Ordinance on Existing Fireworks Display Events

No mitigation is required.

Level of Significance after Mitigation

Proposed New Fireworks Display Events

The incremental contribution of the proposed new fireworks display events to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable.

Effects of Proposed Ordinance on Existing Fireworks Display Events

The effects of the proposed ordinance on existing fireworks display events would not incrementally contribute to cumulative transportation, circulation, and parking impacts, and therefore would not be cumulatively considerable. No cumulatively significant adverse impacts would occur.

Chapter 6

Additional Consequences of Project Implementation

6.1 Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, Sections 15126.2(c), (d),¹ and 15128, this chapter addresses the potential for additional consequences related to the implementation of the proposed project. Specifically, this chapter (1) addresses significant irreversible changes to the environment that would result from implementation of the proposed project; (2) discusses growth-inducing impacts of the proposed project, including ways in which the proposed project could promote either direct or indirect growth; and (3) discusses the environmental effects of the proposed project that were determined not to be significant during the initial environmental review process. The proposed ordinance would not change the number or nature of existing fireworks display events and, therefore, would not result in any additional consequences. As such, the analysis in this section focuses on the proposed new fireworks display events.

6.2 Significant Irreversible Environmental Changes

The proposed project involves the adoption of an ordinance; therefore, pursuant to State CEQA Guidelines Section 15127, the environmental impact report (EIR) is required to comply with State CEQA Guidelines Section 15126.2(c). Section 15126.2(c) requires that the EIR identify any significant irreversible environmental changes resulting from implementation of the proposed project. Irreversible commitments of resources are also evaluated to ensure that their use is justified. Irreversible environmental changes typically fall into three categories: primary impacts, such as the use of nonrenewable resources; secondary impacts, such as highway improvements that provide access to previously inaccessible areas; and environmental accidents associated with a project.

The proposed project would not include any landside or waterside construction and, therefore, would not require the use of construction materials such as cement, concrete, lumber, and steel. Construction activities typically require a commitment of non-renewable natural resources, primarily from the direct consumption of fossil fuels. These fossil fuels would typically be consumed during construction in the form of the diesel and gasoline fuel used in construction and yard equipment, commute vehicles, and trucks. Electricity is also consumed during construction by power tools, electric equipment, and lighting. However, because no construction is proposed, there would be no irreversible environmental changes or irretrievable commitment of resources that are typically associated with construction as a result of project implementation.

Although no construction-related significant irreversible environmental changes would occur, implementation of the proposed project would result in primary impacts through the commitment of energy and natural resources during operation. The primary energy source would be fossil

¹ The requirements of State CEQA Guidelines Sections 15126.2(a) and (b) are met in Chapter 4, *Environmental Analysis*, under each resource discussion.

fuels, which would be utilized to transport fireworks to the National City and Chula Vista project sites where the proposed new fireworks display events would occur. Fossil fuels would also be used by tugboats during the movement and temporary placement of barges. Additionally, the fireworks themselves contain gunpowder as a charge/motor and require either an open flame or an electrical contact setup to launch. Fireworks also contain paper, cardboard, plastic, cotton, metal, and other similar components. Although the proposed new fireworks display events would occur on a relatively infrequent and temporary basis, some energy consumption is required. As such, the proposed project represents an irreversible commitment of these resources. However, the amount and rate of consumption would not result in a large commitment of these resources or the unnecessary, inefficient, or wasteful use of resources. As discussed in Chapter 3, *Project Description*, of this Draft EIR, the proposed project includes up to four proposed new fireworks display events annually. The proposed new fireworks display events are expected to occur as part of or in conjunction with other civic or entertainment events. Therefore, because of the small amount of resources and infrequent nature of these proposed new fireworks display events, the proposed project would not result in significant primary impacts. Furthermore, the proposed project would not include the extension of any public services or infrastructure into areas that were not previously served and would not induce any permanent population growth in the project area. Therefore, the proposed project would not result in any secondary impacts. For these reasons, operation of the proposed project would not result in an irreversible commitment of nonrenewable resources.

State CEQA Guidelines Section 15126.2(c) also requires a discussion of the proposed project's potential to result in irreversible environmental damage caused by a project-related environmental accident. Operation of the proposed project would involve the use of fireworks, which are a class of low-explosive pyrotechnic device. Typical fireworks constituents include a number of chemicals and heavy metals, which are scattered during combustion. As discussed in Section 4.5, *Hazards and Hazardous Materials*, the proposed project would require the transport, use, and disposal of fireworks, which can be considered hazardous materials because of their explosive nature and chemical composition. However, compliance with federal (including U.S. Department of Transportation Hazardous Materials Regulations [49 Code of Federal Regulations 100–185]), state (including Title 19 of the California Code of Regulations), and local regulations, in combination with oversight by licensed fireworks operators and the responsible city fire departments, would ensure that all hazardous materials associated with fireworks would be used, stored, and disposed of properly. Additionally, the proposed new fireworks display events would be required to comply with the state and local laws set forth in the California Department of Forestry and Fire Protection's (CAL FIRE's) *Fireworks in California* handbook (CAL FIRE 2011), which are enforced by the responsible city fire departments. Therefore, required compliance with existing laws and regulations would ensure that the transport, use, and disposal of hazardous materials associated with fireworks would not result in irreversible environmental damage caused by a project-related environmental accident.

6.3 Growth-Inducing Impacts

State CEQA Guidelines Section 15126.2(d) requires that an EIR discuss the ways in which a proposed project could directly or indirectly foster economic development, population growth, or additional housing and how that growth would affect the surrounding environment. Direct growth

inducement would result if a project, for example, were to involve construction of new housing. Indirect growth might occur if a project were to establish substantial new permanent employment opportunities that would stimulate the need for additional housing, utilities, and public services.

Similarly, a project would indirectly induce growth if it were to remove an obstacle to additional development, such as removing a constraint on a required public service or utility. A project proposing to expand water supply capabilities in an area where limited water supply has historically restrained growth would be considered growth inducing.

This section discusses the characteristics and consequences of the proposed project that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. However, the following analysis does not assume that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment (State CEQA Guidelines 15126.2(d)). Rather, Chapter 4, *Environmental Analysis*, and Chapter 5, *Cumulative Impacts*, discuss the adverse impacts on resources, including any impacts that would be caused by cumulative conditions.

6.3.1 Economic Growth

One criterion by which growth inducement can be measured involves economic growth. Economic growth considerations include a demand for temporary and permanent employees resulting from new jobs created by a project. The proposed project would not include any construction and, therefore, would not create any temporary construction jobs. Although the proposed project would allow for the occurrence of up to four new fireworks display events annually, it is anticipated that any temporary jobs created to operate these displays would be fulfilled by existing residents who currently live in the San Diego region or already work for the fireworks organizers and/or pyrotechnic companies that currently operate fireworks display events. Additionally, a project could result in economic growth in the form of increased business and tax revenue and indirectly result in increased patronage of surrounding businesses. It is anticipated that two proposed new Fourth of July fireworks display events that would occur under the proposed project would attract visitors from around the San Diego region to cities, communities, and neighborhoods that provide viewing opportunities for the fireworks display events and result in increased income for local businesses as well as increased sales tax revenue for the local governments of National City and Chula Vista. Therefore, the proposed project would indirectly stimulate additional economic growth through increased patronage of surrounding businesses. However, it is anticipated that only large-scale fireworks display events, such as those held on the Fourth of July, would result in a noticeable increase in business and tax revenue, while other smaller fireworks display events, such as the two non-Fourth of July fireworks display events that would occur in Chula Vista, would serve a much more limited number of patrons and would therefore stimulate a smaller amount of additional economic growth through increased patronage of surrounding businesses.

6.3.2 Population Growth

The proposed project would not involve the development of any housing that could increase the stock of available housing in the region and would not increase the region's permanent population. Additionally, the proposed project would not include the construction of any businesses and would not result in the extension of any roads or other infrastructure. As such, the proposed project would not create any temporary construction jobs, nor would it create any permanent jobs associated with new

businesses. The proposed project would include the addition of up to four new proposed fireworks display events per year along the National City and Chula Vista Bayfronts, which could result in a slight increase in the number of temporary jobs for those who operate these displays. However, it is anticipated that any employment opportunities would be fulfilled by existing residents who currently live in the San Diego region or already are employed by the fireworks organizers and/or pyrotechnic companies that currently operate fireworks display events. Therefore, implementation of the proposed project would have little to no effect on the inducement of population growth.

6.3.3 Construction of Additional Housing

The proposed project would not include the construction of housing, which is prohibited on San Diego Unified Port District (District) property under the Public Trust Doctrine, nor would it increase the region's population in a manner that would necessitate the construction of additional housing. It is anticipated that any potential jobs created to operate the additional four proposed new fireworks display events associated with the proposed project would be fulfilled by existing residents in the San Diego region. Therefore, the proposed project would not directly or indirectly stimulate the construction of additional housing.

6.3.4 Removal of Obstacles to Population Growth

As stated above, a project would indirectly induce growth if it were to remove a constraint on a required public service or utility. A project would also indirectly induce growth if it were to establish a precedent-setting action (e.g., an innovation, a change in zoning, or a general plan amendment approval). Implementation of the proposed project would not require an amendment to the Port Master Plan (PMP), which is the District's guiding land use document and, therefore, would not indirectly induce growth through a land use or zoning change. Additionally, because no construction of homes or businesses is proposed, the proposed project would not require any infrastructure upgrades to serve these uses. Therefore, the proposed project would not result in the physical removal of obstacles to growth.

6.3.5 Summary of Growth-Inducing Impacts

The proposed project is expected to indirectly foster economic growth through increased patronage of surrounding businesses during fireworks display events at the National City and Chula Vista Bayfronts. This increase in patronage would result in slight increases in income for local businesses and increased tax revenue for local governments. However, the proposed project would not generate any permanent jobs. Furthermore, it is anticipated that any temporary jobs created to operate the four proposed new fireworks display events annually would be fulfilled by existing residents of the region or persons who already work for the fireworks organizers and/or pyrotechnic companies. Moreover, the proposed project would not include the construction of any housing or an extension of any infrastructure or roadways that could remove obstacles to population growth. Consequently, the proposed project would not directly or indirectly induce population growth or cause the construction of new housing in the region.

6.4 Effects Found Not to Be Significant

An Initial Study/Environmental Checklist (Appendix A) was prepared early in the environmental scoping process. It was determined that the proposed project would not have a significant impact related to one or more aspects of the following resources: aesthetics; agriculture and forestry resources; cultural resources; geology and soils; hazards and hazardous materials; hydrology and water quality; land use and planning; mineral resources; noise and vibration; population and housing; public services; recreation; transportation, circulation, and parking; and utilities and service systems. In accordance with State CEQA Guidelines Section 15128, a brief explanation regarding the reasons why the effects on these resources would not be significant is provided under each subheading below.

6.4.1 Aesthetics

6.4.1.1 Scenic Vistas

Public displays of fireworks are typically conducted as part of national and community celebrations and other special events for aesthetic and entertainment purposes. Generally, fireworks display events are considered to be aesthetically pleasing. There are a number of vista areas around San Diego Bay and the Imperial Beach Oceanfront, as designated in the PMP. As defined in the PMP, vista areas include points of natural beauty, photo vantage points, and other panoramas. Other than Planning District 4 (Tenth Avenue Marine Terminal) and Planning District 9 (South Bay Saltlands), all other PMP planning districts contain designated vista areas, with the majority located within Planning District 1 (Shelter Island), Planning District 2 (Harbor Island), Planning District 3 (Centre City Embarcadero), Planning District 6 (Coronado Bayfront), and Planning District 7 (Chula Vista Bayfront). The designated vista areas within Planning District 5 (National City Bayfront) and Planning District 7 (Chula Vista Bayfront) could serve as prime viewing locations for the proposed new fireworks display events in San Diego Bay. Barges and other vessels and equipment associated with the proposed new fireworks display events would be utilized at the National City and Chula Vista sites. All associated equipment would be put in place shortly before a display and removed promptly after a display. Additionally, the proposed project would not include any landside or waterside construction that could obstruct existing views from any PMP-designated vista areas. Therefore, the proposed project would not have a substantial adverse effect on a scenic vista, and impacts would be less than significant.

6.4.1.2 Scenic Resources

The San Diego-Coronado Bay Bridge (State Route [SR] 75) is a state-designated scenic highway that spans San Diego Bay, connecting the City of San Diego to the City of Coronado. Existing long-distance views of the bayfront from the San Diego-Coronado Bay Bridge are dominated by a mix of high-rise residential, commercial, park, and urban developments as well as a variety of maritime industrial facilities. The National City Bayfront is dominated by the marine-related industrial uses of the National City Marine Terminal, with adjacent industrial uses in the northern portion and a marina, park, and wildlife habitat in the southern portion. The Chula Vista Bayfront includes undeveloped vegetated wildlife habitat in the northern portion; parks, a yacht refit and repair facility, recreational vehicle (RV) park, and marinas in the central portion; and a saltworks operation in the southern portion. Implementation of the proposed project is not anticipated to damage scenic resources along a scenic

highway, such as trees, rock outcroppings, or historic buildings, because the proposed project would not include any landside or waterside construction that could remove or obstruct views of such resources. Visual changes associated with the proposed project would include those associated with the combustion of fireworks; however, these visual effects would be temporary in duration and infrequent. Therefore, no impacts on officially designated scenic highways would occur.

6.4.1.3 Visual Character or Quality

As mentioned, the proposed project would not include any construction that would alter or substantially degrade the existing visual character or quality of the surrounding area. The proposed new fireworks display events would be temporary and would occur only periodically throughout the year. Barges and other vessels and equipment used for the proposed new fireworks display events would be put in place shortly before a display and removed promptly after the display's completion. Additionally, the proposed new fireworks display events would be held during nighttime hours; therefore, any barges, vessels, or other equipment used during an event would most likely not be visible. As such, the proposed project would not substantially degrade the existing visual character or quality of the site or surrounding area, and impacts would be less than significant.

6.4.2 Agriculture and Forestry Resources

6.4.2.1 Important Farmland

The project sites are located at San Diego Bay and, therefore, do not support any agricultural uses. The California Department of Conservation's Farmland Mapping and Monitoring Program designates areas with prime soils and soils of statewide importance, based on soil characteristics and agricultural use. Because the proposed project would occur primarily over water, the project sites do not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency (California Department of Conservation 2015). As such, there is no potential for any actions to convert farmland resources to a non-agricultural use, and no impacts would occur.

6.4.2.2 Williamson Act Contracts or Agricultural Zoning

The project sites and surrounding area are not zoned for agricultural use, nor are they under Williamson Act contract. Therefore, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no impacts related to agricultural resources would occur.

6.4.2.3 Conflict with Forest Land Zoning

The project sites are located at San Diego Bay and, therefore, do not support any forestry uses. No land that has been zoned as forestland or timberland exists within the boundaries of the project sites. Therefore, implementation of the proposed project would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production, and no impact would occur.

6.4.2.4 Conversion of Forestland to Non-Forest Use

The project sites and surrounding area do not contain any forestlands, as defined in Public Resources Code Section 12220(g); therefore, the proposed project would not result in the loss or conversion of forestland to a non-forest use. In addition, the proposed project is not in the vicinity of off-site forest resources. Therefore, no impact would occur.

6.4.2.5 Conversion of Farmland to Non-Agricultural Use

No agricultural land use, forestland, or timberland exists in the vicinity of the project sites. The proposed project would not result in the conversion of important farmland or the conversion of other agricultural resources to a non-agricultural use because the project sites are located at San Diego Bay, and the surrounding area is mostly developed land. Therefore, the proposed project would not involve a change to the existing environment that, because of its location or nature, would result in the conversion of farmland to non-agricultural use or forestland to non-forest use, and no impact would occur.

6.4.3 Cultural Resources

6.4.3.1 Historical Resources

The proposed project would not include the demolition of any existing structure that could be considered a historical resource. As such, the proposed project would not indirectly or directly affect a historical resource, as defined in Section 15064.5 of the State CEQA Guidelines, that may be located within the project area. Therefore, no impacts would occur.

6.4.3.2 Archaeological Resources

Typically, grading and/or excavation activities have the potential to affect previously undiscovered buried archaeological resources. Because no landside or waterside construction is proposed that would require grading, excavation, or dredging, the proposed project would not cause a substantial change in the significance of an archaeological resource, as defined in Section 15064.5 of the State CEQA Guidelines. Therefore, no impacts would occur.

6.4.3.3 Human Remains

Typically, grading and/or excavation activities have the potential to disturb human remains, including those interred outside of a formal cemetery. Because no landside or waterside construction is proposed that would require grading, excavation, or dredging, the proposed project would not disturb any buried human remains. Therefore, no impacts would occur.

6.4.4 Geology and Soils

6.4.4.1 Seismic-Related Hazards

The project sites encompass areas within San Diego Bay. Although a number of faults traverse San Diego Bay, including the Rose Canyon fault, the proposed project would not include any construction, including the construction of any habitable structures that could be affected by a

seismic event. As such, the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, strong seismic ground shaking, seismically related ground failure, including liquefaction, or landslides. Therefore, no impacts would occur.

6.4.4.2 Substantial Soil Erosion or Loss of Topsoil

The proposed project would not include any construction activities that would require grading, dredging, or any other earthwork. Therefore, no impacts related to soil erosion would occur with implementation of the proposed project.

6.4.4.3 Unstable Geologic Unit or Soil

The proposed project would not include the construction of any habitable structures and, therefore, would not require grading, dredging, or any other earthwork. Because no earthwork would be required, the proposed project would not excavate any geologic units or soils that are unstable or that would become unstable as a result of the proposed project.] Therefore, the proposed project would not have the potential to result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. No impacts would occur.

6.4.4.4 Expansive Soil

There is no construction proposed as part of the proposed project; therefore, the proposed project would not have the potential to place any structures intended for human occupancy on expansive soils, as defined by Table 18-1-B of the Uniform Building Code. As such, the proposed project would not result in substantial risks to life or property as a result of expansive soils. No impacts would occur.

6.4.4.5 Septic Tanks or Alternative Wastewater Disposal Systems

No septic tanks or alternative wastewater disposal systems are proposed because no construction would occur with implementation of the proposed project. Therefore, there would be no impact associated with the on-site soils that are incapable of supporting a septic tank or wastewater disposal system.

6.4.4.6 Paleontological Resources

Paleontological resources are typically uncovered when substantial grading or excavation operations occur in geological formations that have been identified as being sensitive for such resources. As mentioned, the proposed project would not require any grading, dredging, or other earthwork because no physical construction is proposed. Consequently, the proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. No impacts would occur.

6.4.5 Hazards and Hazardous Materials

6.4.5.1 Proximity to Schools

The proposed project is not within 0.25 mile of an existing or proposed school. The nearest school to the proposed National City Bayfront barge is Central Elementary School, located at 933 E Avenue, approximately 2.38 miles away. The nearest school to the proposed Chula Vista Bayfront barge is Mueller Charter School, located at 715 I Street, approximately 1.91 miles away. Therefore, the proposed project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Additionally, the proposed new fireworks display events would be located on barges in San Diego Bay. These barge areas are not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

6.4.5.2 Airport Land Use Plans

All airports/airstrips within 10 miles of the proposed project are public or military. None of the proposed new fireworks display events are within 2 miles of San Diego International Airport (SDIA), the U.S. Coast Guard Air Station, or Naval Air Station (NAS) North Island. Based on correspondence with the San Diego County Regional Airport Authority Airport Land Use Commission (ALUC), fireworks display events are considered a temporary event and are exempt from ALUC review and approval (Gowens pers. comm.). In addition, based on correspondence with the Federal Aviation Administration (FAA), a notification to the FAA is required prior to any fireworks display event so that local airports can be notified when they will occur; however, a “no hazard” determination is not issued or required for fireworks display events (Griffin pers. comm.). The proposed new fireworks display events would be handled in compliance with all applicable laws and regulations, including any notification requirements of the FAA. Therefore, implementation of the proposed project would not result in a safety hazard for people residing or working in the project area.

6.4.5.3 Private Airstrip

The proposed project is not within the vicinity of a private airstrip. No hazard impacts related to private airstrips would occur with implementation of the proposed project.

6.4.5.4 Wildland Fires

There are no wildlands or heavily vegetated areas in proximity to the project sites. According to the Very High Fire Hazard Severity Zone maps prepared by CAL FIRE, the Chula Vista Bayfront is neither adjacent to nor intermixed with wildlands or areas that have been designated as Very High Fire Hazard Severity Zones (CAL FIRE 2009). There is no Very High Fire Hazard Severity Zone map for the City of National City; however, the National City General Plan identifies the National City Bayfront as being within an area with a moderate fire hazard level. The project sites are surrounded by commercial, industrial, recreational, and marine-related uses. As such, the potential for wildfires resulting from a fireworks-related accident is extremely low. Additionally, fireworks would be shot from barges in San Diego Bay, further reducing the potential for fire hazards. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. No impacts would occur.

6.4.6 Hydrology and Water Quality

6.4.6.1 Groundwater Supplies

The proposed project would not include any landside or waterside construction that would rely on the use of groundwater and does not propose the use of any groundwater. In addition, the proposed project would not interfere substantially with groundwater recharge because no new impervious surfaces would be constructed or developed. As such, the proposed project would not deplete groundwater supplies or interfere with groundwater recharge and result in a net deficit in aquifer volume or a lowering of the local groundwater table level. No impacts on groundwater would occur.

6.4.6.2 On-site and Off-site Drainage

The proposed project would not alter the existing drainage patterns of the project sites because no landside or waterside construction is proposed. As such, the proposed project would not result in substantial erosion or siltation on-site or off-site, nor would it increase the rate or amount of surface runoff associated with the alteration of existing drainage patterns in a manner that would result in flooding on-site or off-site. Therefore, no drainage impacts would occur.

6.4.6.3 100-Year Flood Hazard Areas (Placement of Housing)

Although San Diego Bay is designated under Zones AE, A, B, X, and D (i.e., special flood hazard areas that would be inundated by a 100-year flood) of the Federal Emergency Management Agency's Flood Insurance Rate Maps, the barges and other vessels and equipment that would be utilized for the proposed new fireworks display events would be temporary and would be removed following the completion of such events. Because the proposed project would not include the construction of homes or other habitable structures, the proposed project would not place housing within a 100-year flood hazard area, as delineated on any flood hazard maps, that could impede or redirect floodflows or expose people or structures to a significant risk of loss, injury, or death involving flooding. Therefore, no impacts would occur.

6.4.6.4 Dam or Levee Failure

The proposed project would not include the construction of homes or other habitable structures downstream of a dam or levee. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam. Therefore, no impacts would occur.

6.4.6.5 Inundation by Seiche, Tsunami, or Mudflow

The project sites are within San Diego Bay, which may be susceptible to tsunami effects, such as high surf or waves. These low-lying areas may also be susceptible to inundation by projected sea-level rise in the future. However, as stated above, the proposed project would not include any construction of homes or other structures that may be subject to inundation by a tsunami event. Although the project sites and many of the primary viewing areas are within a tsunami inundation area, the barges and other vessels and equipment that would be utilized for the proposed new fireworks display events would be temporary and would be removed following the completion of such events. As a result, the likelihood that a tsunami event would occur during an individual fireworks display event is extremely low. Therefore, no impacts would occur.

6.4.7 Land Use and Planning

6.4.7.1 Physically Divide an Established Community

The proposed project would involve fireworks display events. It would not include any landside or waterside construction, such as industrial or commercial buildings or roadways or highways that could divide an established community. Therefore, the proposed project would not result in any land use impacts associated with dividing an established community.

6.4.8 Mineral Resources

6.4.8.1 Known Mineral Resource

The project sites include multiple locations within the waters of San Diego Bay. No commercial mining operations exist at any of the project locations or in the immediate vicinity. The project sites and surrounding areas are not designated or zoned as land with available mineral resources. In addition, as indicated in the general plans for National City and Chula Vista, the project sites do not contain aggregate resources and are not in a mineral resource zone that contains important resources, as designated per the Surface Mining and Reclamation Act of 1975 (City of National City 2011; City of Chula Vista 2005). Moreover, the proposed project would not include any construction or excavation that could result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Therefore, no impacts on mineral resources would occur.

6.4.8.2 Important Mineral Resource

The project sites include multiple locations within the waters of San Diego Bay. The project sites and surrounding areas do not contain locally important mineral resources. Therefore, implementation of the proposed project would not result in the loss of availability of a locally important mineral resource recovery site, as delineated on a local general plan, specific plan, or other land use plan. Therefore, no impact would occur.

6.4.9 Noise

6.4.9.1 Excessive Ground-borne Vibration and Ground-borne Noise Levels

Typically, the use of high-impact equipment, such as a pile driver, impact hammer, or large bulldozer, is a significant source of ground-borne vibration or noise during construction. The proposed project would involve fireworks display events in San Diego Bay. It would not include any landside or waterside construction that would require the use of high-impact equipment. In addition, because explosions associated with fireworks are several hundred feet in the air, the sound energy generated by the explosion is substantially dissipated by the time it reaches the ground. As such, the potential for fireworks explosions to generate perceptible ground-borne vibration or ground-borne noise is low. Therefore, no ground-borne vibration or noise impacts would occur.

6.4.9.2 Permanent Increase in Ambient Noise Levels

The proposed new fireworks display events would occur on an infrequent basis and be temporary in nature. Therefore, noise generated by these events would be short in duration and would occur only periodically throughout the year. Furthermore, the proposed project would not include the construction of any uses that would generate noise on an ongoing basis. As such, the proposed project would not result in a substantial permanent increase in ambient noise levels, and no impacts would occur.

6.4.9.3 Airport Land Use Plan Area

All airports/airstrips within 10 miles of the project sites are public or military. None of the proposed new fireworks display events are within 2 miles of SDIA, the U.S. Coast Guard Air Station, or NAS North Island. The closest airport/airstrip to the proposed new fireworks display events is NAS North Island, which is approximately 5 and 6 miles north of the National City and Chula Vista Bayfronts, respectively. As such, people working on barges during the proposed new fireworks display events, as well as members of the public viewing the displays, would not be exposed to excessive noise levels associated with airport operations. Therefore, impacts would be less than significant.

6.4.9.4 Private Airstrip

The proposed new fireworks display events would not be within the vicinity of a private airstrip. All airports/airstrips within 10 miles of the project site are public or military. Therefore, no noise impacts related to private airstrips would occur with implementation of the proposed project.

6.4.10 Population and Housing

6.4.10.1 Population Growth

The proposed project would not include the construction of any homes or businesses and would not result in the extension of any roads or other infrastructure. As such, the proposed project would not create any temporary construction jobs, nor would it create any permanent jobs associated with new businesses. The proposed project would include up to four proposed new fireworks display events per year, which could result in a slight increase in temporary jobs to operate these new displays; however, it is anticipated that any employment opportunities would be fulfilled by existing residents who currently live in the San Diego region or already are employed by the fireworks organizers and/or pyrotechnic companies. Therefore, the proposed project would not directly or indirectly induce substantial population growth, and no impacts would occur.

6.4.10.2 Displacement of Housing

The proposed project would involve the occasional occurrence of proposed new fireworks display events. It would not include any landside or waterside construction. No housing would be displaced with implementation of the proposed project. Therefore, no impacts would occur.

6.4.10.3 Displacement of People

The proposed project would involve fireworks display events from barges within San Diego Bay; therefore, the project sites would not include residential housing. Additionally, the proposed project would not include the construction of any homes, businesses, or other uses that could result in the displacement of existing housing or people or require the construction of replacement housing elsewhere. Therefore, no impacts would occur.

6.4.11 Public Services

6.4.11.1 Schools

The proposed project would not result in adverse impacts on schools. Physical impacts on school facilities and services are usually associated with in-migration and population growth, which increase the demand for schools and result in the need for new or expanded facilities. The proposed project would not result in an increased demand on school facilities because fireworks display events typically cater to local and visiting regional populations and do not facilitate permanent growth in population. Therefore, the proposed project would not result in increased demand that would require the need for new or physically altered school facilities that could cause significant environmental impacts, and no impacts would occur.

6.4.11.2 Parks

The proposed project would involve fireworks display events from barges within San Diego Bay; therefore, the project sites would not contain any parks. However, a number of parks would be adjacent to the proposed new fireworks display events in San Diego Bay and adjacent to the National City and Chula Vista Bayfronts, which could serve as prime viewing areas for the new displays. Although the proposed project would increase the use of these parks from spectator viewing during the proposed new fireworks display events, these events would be temporary and occasional in nature. Furthermore, they typically cater to local and regional populations. As a result, the proposed project would not facilitate permanent growth in population that would increase the demand on existing recreational facilities, requiring the provision of new or physically altered recreational facilities that could cause significant environmental impacts. Therefore, impacts on park services would be less than significant.

6.4.12 Recreation

6.4.12.1 Physical Deterioration of Facilities

An increase in the use of existing parks and recreational facilities typically results from an increase in the number of housing units or residents in an area. A number of parks would be adjacent to the proposed new fireworks display events in San Diego Bay and adjacent to the National City and Chula Vista Bayfronts, including Pepper Park, Chula Vista Bayside and Bayfront Parks, Chula Vista Marina View, Grand Caribe Shoreline Park (in Coronado, across the bay from Chula Vista), and numerous other public areas along the waterfront that could serve as prime viewing areas for the new displays.

Although the proposed project would increase the use of these parks from spectator viewing during the proposed new fireworks display events, these events would be temporary and infrequent in nature. Furthermore, they typically cater to local and regional populations. As a result, the proposed project would not facilitate permanent growth in population that would substantially increase the use of existing recreational facilities. Consequently, because of the infrequent nature of the proposed new fireworks display events that would occur with implementation of the proposed project, the temporary use of these parks as viewing areas would not cause substantial physical deterioration of these facilities to occur or be accelerated. Additionally, the District currently maintains parks and other public areas within its jurisdiction following large events. This includes increased/additional trash cleanup and other maintenance services at affected parks within 24 hours following Fourth of July fireworks display events to minimize impacts from increased use of the parks that serve as viewing locations. As with existing fireworks display events, the District would continue to provide these maintenance services following the proposed new Fourth of July fireworks display events. Therefore, impacts would be less than significant.

6.4.12.2 Construction or Expansion of Recreational Facilities

The proposed project would not include any construction, including construction of any recreational facilities. As mentioned, the proposed project would not result in substantial physical deterioration of existing recreational facilities because of the temporary and periodic nature of the proposed new fireworks display events and continued maintenance by the District. Additionally, the proposed project would not include the construction of any homes or businesses that could foster permanent population growth in the project area. Consequently, the proposed project would not require construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Therefore, no impacts related to recreation would occur.

6.4.13 Transportation and Traffic

6.4.13.1 Air Traffic Patterns

None of the proposed new fireworks display events would occur within 2 miles of SDIA, the U.S. Coast Guard Air Station, or NAS North Island. Although the FAA does not issue or require a “no hazard” determination for fireworks display events, FAA notification is required prior to any events that include fireworks displays so that local airports can be notified as to when they will occur. This ensures that local airports are informed of individual fireworks display events and allows them to make modifications to flight patterns, as necessary, to maintain a safe airspace. The proposed new fireworks display events would be handled in compliance with all applicable laws and regulations, including any notification requirements of the FAA. Therefore, implementation of the proposed project would not result in a safety hazard for people residing or working in the project area, and impacts would be less than significant.

6.4.13.2 Hazardous Design Features

The proposed project would not result in any changes to the landside circulation system that could substantially increase hazards because of a design feature or incompatible use. In regard to marine vessel circulation in San Diego Bay within the District’s jurisdiction, the U.S. Coast Guard and/or State Fire Marshal would establish a safety zone around each of the launch sites during proposed

new fireworks display events within the bay. The safety zone would encompass all navigable waters surrounding the launch sites, within the distance determined appropriate by the U.S. Coast Guard and/or State Fire Marshal. Additionally, all vessels participating in the event must abide by the navigation rules of the U.S. as well as all applicable federal, state, and local regulations when transitioning outside of the established safety zone. Furthermore, the Harbor Police Department provides marine vessel patrols and maritime response within San Diego Bay, its associated waterways, and coastal areas. These vessel patrols are staffed 24 hours a day and in all types of weather. They would be increasingly present at large events such as the proposed new Fourth of July fireworks display events to regulate water safety. As such, the proposed project would not substantially increase hazards because of a design feature or incompatible use. Therefore, impacts would be less than significant.

6.4.14 Utilities and Service Systems

6.4.14.1 Water and Wastewater Treatment

The proposed project would not include the construction of any homes, businesses, or other uses that would result in an increase in water use or generate new sources of wastewater that would require treatment. As a result, implementation of the proposed project would not exceed the wastewater treatment requirements of the San Diego Regional Water Quality Control Board, nor would it require the construction of new water or wastewater treatment facilities or an expansion of existing facilities that could cause significant environmental effects.

Although no permanent uses would be constructed with the proposed project, fireworks display events typically draw large numbers of spectators, particularly on major holidays such as the Fourth of July. There are a number of public parks adjacent to the proposed new fireworks display events, as well as other public areas along the waterfront, that could serve as prime viewing areas for the new displays. Although the proposed project would increase public restroom use by spectators at these parks during the fireworks displays, these proposed new fireworks display events would occur only periodically throughout the year. Furthermore, they typically cater to local and visiting regional populations. As such, these restroom facilities would be utilized by existing residents of the local and regional population during a temporary display. Because these spectators are generally part of the existing local and regional population, the use of public restroom facilities should be accounted for by the existing wastewater treatment provider that currently serves the public parks and other public areas surrounding the project sites. Therefore, no impacts would occur.

6.4.14.2 Stormwater Drainage Facilities

The proposed project would not include any physical construction that would result in an increase in impervious surfaces. As a result, there would be no increase in stormwater runoff to existing stormwater drainage facilities, and the proposed project would not require the construction of new stormwater drainage facilities or an expansion of existing facilities that could cause significant environmental effects. Therefore, no impacts would occur.

6.4.14.3 Water Supplies

As mentioned, the proposed project would not include construction of any homes, businesses, or other uses that would result in a permanent increase in water usage and potentially affect water supplies. Although no permanent uses would be constructed with the proposed project, fireworks display events typically draw large numbers of spectators, particularly on major holidays such as the Fourth of July. There are a number of public parks adjacent to the proposed new fireworks display events as well as other public areas along the waterfront that could serve as prime viewing areas for the new displays. Although the proposed project could increase public water use by spectators (e.g., drinking fountain usage) at these parks during the fireworks display events, these proposed new fireworks display events would occur only periodically throughout the year and typically cater to local and visiting regional populations. Because these spectators are generally part of the existing local and regional population, it is likely that they would be using public water sources elsewhere around San Diego County. Therefore, the proposed project would not require new or expanded water entitlements, and impacts on the water supply would be less than significant.

6.4.14.4 Solid Waste

Assembly Bill 939 requires each city and county in the state to divert at least 50 percent of its solid waste from landfill disposal through measures such as source reduction, recycling, and composting. Assembly Bill 939 mandates the reduction of solid waste disposal in landfills and a minimum 50 percent diversion goal. It also requires cities and counties to prepare Source Reduction Recycling Elements in their general plans.

The proposed project would generate solid waste from the combustion of fireworks. This waste would need to be disposed of following the proposed new fireworks display events. However, the overall solid waste generated from the combustion of fireworks would be minimal because of the infrequent nature of these events. Solid waste, primarily in the form of food and beverage packaging, would also be generated by spectators who utilize the parks and other public areas along the waterfront as viewing areas for the proposed new fireworks display events. As mentioned, the District currently maintains the existing parks and public areas within its jurisdiction following large events, which would continue to occur with implementation of the proposed project. All solid waste generated as a result of the proposed project would be taken to a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs, in compliance with federal, state, and local statutes and regulations related to solid waste. Therefore, the proposed project would have a less-than-significant solid waste impact.

Chapter 7

Alternatives to the Proposed Project

7.1 Overview

This chapter describes and analyzes a range of reasonable alternatives that could feasibly attain most of the basic project objectives while avoiding or substantially lessening one or more of the significant effects of the proposed project. The primary purpose of this chapter is to ensure that the comparative analysis provides sufficient detail to foster informed decision-making and public participation in the environmental process.

Three alternatives to the proposed project are analyzed in this chapter and discussed in terms of their merits relative to the proposed project.

- Alternative 1 – No Project Alternative
- Alternative 2 – Quiet Fireworks Display Events Alternative
- Alternative 3 – No Salute Fireworks Alternative

Based on the analysis below, Alternative 2, Quiet Fireworks Display Events Alternative, would be the environmentally superior alternative.

7.2 Requirements for Alternatives Analysis

The State CEQA Guidelines require that an EIR present a range of reasonable alternatives to a project, or to the location of a project, that could feasibly attain a majority of the basic project objectives, but that would avoid or substantially lessen one or more significant environmental impacts of the project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider every conceivable alternative to a project. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the basic project objectives, are not feasible, or do not avoid or substantially lessen any significant environmental effects (State CEQA Guidelines, Section 15126.6(c)).

In addition to the requirements described above, CEQA requires the evaluation of a No Project Alternative, which analyzes the environmental effects that would occur if the project were not to proceed (State CEQA Guidelines Section 15126.6(e)). Moreover, the EIR is required to identify the environmentally superior alternative. If the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines Section 15126.6(e)(2)).

7.3 Selection of Alternatives

In developing alternatives that meet the requirements of CEQA, the starting point is the proposed project's objectives. The proposed project includes the following objectives.

1. To develop a District ordinance that establishes policies, performance standards, and other requirements that would be applied to fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants;
2. To allow for the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants, including on the Fourth of July, which provide a popular and region-wide way to celebrate and express civic pride;
3. To allow for the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants in a manner that considers the health, safety and welfare of people, property and the environment; and
4. To continue and enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available.

CEQA also requires that alternatives be feasible. *Feasible* is defined in CEQA as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors" (Public Resources Code Section 21061.1). The State CEQA Guidelines elaborate to state that factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, and jurisdictional boundaries and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (State CEQA Guidelines Section 15126.6).

Finally, the alternatives should also avoid or substantially lessen one or more significant environmental impacts that would occur under the proposed project. Table 7-1 summarizes the proposed project's significant impacts, which have been identified to assist with focusing the analysis of alternatives in Section 7.5.

Table 7-1. Summary of Significant Effects of the Proposed Project

Resource Impact	Significant and Unavoidable	Less than Significant with Mitigation
Section 4.1, Aesthetics and Visual Resources		
N/A	N/A	N/A
Section 4.2, Air Quality and Health Risk		
Emissions in excess of PM _{2.5} thresholds during combined new Fourth of July fireworks display events.		X

Resource Impact	Significant and Unavoidable	Less than Significant with Mitigation
Cumulative emissions in excess of PM2.5 thresholds during combined new Fourth of July fireworks display events.		X
Section 4.3, Biological Resources		
Potential direct impact on marine reptiles from fireworks-generated trash and debris.		X
Potential indirect impacts on marine reptiles from increased human and boating activity.		X
Potential direct impacts on avian species from fireworks-generated trash and debris.		X
Potential indirect impacts on special-status avian species from increased human and boating activity.		X
Potential direct impact on sensitive habitat and wetlands from fireworks-generated trash and debris.		X
Potential direct impacts on sensitive eelgrass habitat from tugs and fireworks barges.		X
Potential indirect impact on sensitive habitat and wetlands from increased human and boating activity.		X
Potential indirect impact on wildlife corridors, movement of resident and migratory species, and usage of nursery sites from increased human and boating activity.		X
Potential conflict with the City of San Diego and Chula Vista Multiple Species Conservation Program Subarea Plans.		X
Potential conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan.		X
Section 4.4, Greenhouse Gas Emissions, Climate Change, and Energy		
N/A	N/A	N/A
Section 4.5, Hazards and Hazardous Materials		
N/A	N/A	N/A
Section 4.6, Hydrology and Water Quality		
Potential for the proposed fireworks display events to pollute surface waters if fireworks debris is not properly recovered.	X	
Potential for publicly advertised fireworks display events to pollute surface waters if increased human-generated trash and litter within the public viewing areas is not properly disposed of and cleaned up.		X
Section 4.7, Land Use and Planning		
N/A	N/A	N/A
Section 4.8, Noise and Vibration		
Substantial periodic or temporary increase in ambient noise levels	X	
Section 4.9, Public Services and Facilities		
N/A	N/A	N/A

Resource Impact	Significant and Unavoidable	Less than Significant with Mitigation
Section 4.10, Transportation, Circulation, and Parking		
Decrease in the performance of roadway, bicycle, and pedestrian facilities from proposed new fireworks display events.	X	
Inadequate parking supply during proposed new fireworks display events.	X	

7.4 Alternatives Considered

Seven alternatives were initially considered for evaluation. Based on the criteria described in Section 7.3, in addition to the No Project Alternative scenario, two other alternatives were carried forward for analysis. The other alternatives that were considered, but rejected, included Landside Fireworks Display Events on Port Tidelands, a Laser Light Show, No Fireworks Display Events During the Nesting Season, and Private Fireworks Display Events Only. These alternatives and the basis for which they were rejected are outlined below.

7.4.1 Alternatives Considered but Rejected

7.4.1.1 Landside Fireworks Display Events on Port Tidelands Alternative

Under the Landside Fireworks Display Events on Port Tidelands Alternative, all proposed new fireworks display events would be required to be held on the landside areas under the jurisdiction of the District. Under this alternative, it was assumed that the following landside locations would be used for fireworks display events as opposed to barges in the Bay:

- National City—open storage area just west of Tidelands Avenue
- Chula Vista—adjacent to Quay Avenue in Bayside Park

While this alternative would reduce potential impacts on water quality, it has the potential to result in acute health risks as well as risks to public safety overall because fireworks display events may be located closer to the viewing audiences. This alternative would also reduce public viewing areas because it would use existing public viewing spaces, large areas of which would be restricted during fireworks display events in order to maintain public safety. Furthermore, landside fireworks display events have a greater potential for fire hazards than waterborne fireworks display events and would require additional fire protection services to ensure public safety during the event. Finally, this alternative has the potential to increase traffic impacts because more intersections and roadways that are within a public safety zone may need to be closed. Therefore, this alternative was rejected from further consideration.

7.4.1.2 Laser Light Show Alternative

A Laser Light Show Alternative would eliminate the use of traditional fireworks display events altogether for public celebrations and would replace them with laser light shows. A laser light show would involve the use of flashing or sweeping beams of colored light or animated images that would

be projected onto other surfaces such as building façades or screens rather than into the sky. The Laser Light Show Alternative would be used to replace all proposed new fireworks display events along the National City and Chula Vista Bayfronts in San Diego Bay and, like the proposed project, would be conducted off barges placed in the Bay. This alternative would result in the elimination of impacts related to air quality and health risks, biological resources (fireworks-generated trash and debris but not impacts on eelgrass), hydrology and water quality, and noise, but would substantially limit the available viewing area as light beams would need to be projected onto a screen or other surface rather than into the sky. However, laser light shows have been known to adversely affect the vision of airplane pilots when lasers inadvertently shine into cockpit windows (Federal Aviation Administration 2005). The proposed new fireworks display events are proximal to public use and military airports, in particular North Island Naval Air Station in Coronado, and could result in new hazards and hazardous materials and transportation, circulation, and parking impacts. In addition to being subject to discretionary approval by the District, these laser light shows would also require approval by the Federal Aviation Administration. Furthermore, this alternative would not meet or would only partially meet project Objectives #3 and #4. Therefore, it was eliminated from further consideration.

7.4.1.3 No Fireworks Display Events During Nesting Season Alternative

Under this alternative, proposed new fireworks display events would be prohibited from occurring during the avian nesting season, which is February 15 through September 15. Under this alternative, no new fireworks display events would be allowed to occur during that period, including the Fourth of July fireworks display events along the Chula Vista Bayfront and National City Bayfront, and these events would be scheduled to occur outside of the nesting season. In addition, the two other proposed new fireworks display events would also be required to occur outside of the nesting season. While this alternative would avoid or reduce the potential effects of fireworks on nesting avian species, the proposed project would also result in a less-than significant-impact on nesting bird habitat with the incorporation of mitigation. In addition, this alternative would not meet most of the objectives of the proposed project. Therefore, this alternative was rejected from further consideration.

7.4.1.4 Private Fireworks Display Events Only Alternative

Under this alternative, future proposed new fireworks display events would be private events and would not be open to the public. Because the size or length of a fireworks display event is rarely advertised to the public, changing these parameters would have little to no influence on event attendance for public displays. Therefore, reducing the size or length of a fireworks display event is anticipated to have little or no effect on the transportation-related impacts associated with a public display because these fireworks display events would likely occur in conjunction with another event or holiday celebration and people would stay for the fireworks display events that would occur as part of the primary event; the fireworks display event itself would not generate additional trips. In order to ensure that the identified transportation-related impacts associated with the proposed project are reduced to less-than-significant levels, the proposed new fireworks display events would need to be private events that are not advertised to the general public and are intended for a limited number of attendees. Focusing on a limited audience would provide control over a number of different factors that make the transportation impacts associated with public fireworks events unpredictable:

- Arrival and departure times
- Location of viewing areas
- Maximum capacity of viewing areas
- Transportation mode choice
- Transportation routes accessing the event
- Maximum amount of parking stalls/lots

While this alternative would eliminate or substantially lessen the significant and unavoidable transportation, circulation, and parking impacts associated with the proposed project, it would not meet most of the objectives of the project. In particular, this alternative would eliminate the ability to provide traditional firework displays events, such as those on the Fourth of July, which provide a popular and region-wide way to celebrate and express civic pride. Therefore, this alternative was rejected from further consideration.

7.4.2 Alternatives Selected for Analysis

7.4.2.1 Alternative 1 – No Project Alternative

The No Project Alternative is required by CEQA to discuss and analyze potential impacts that would occur if the proposed project was not implemented. Under the No Project Alternative, the proposed ordinance would not be adopted and no performance standards to regulate the environmental effects of existing fireworks display events occurring in San Diego Bay or the Imperial Beach oceanfront would be implemented. In addition, the four proposed new fireworks display events along the National City and Chula Vista Bayfronts would not occur. However, all existing fireworks display events that require a discretionary approval by the District or are operated by the District's tenants and have obtained all necessary agency permits, such as the General Permit from the Regional Water Quality Control Board, would continue to occur, including but not limited to those listed in Table 5-2, Cumulative Fireworks Display Events, in Chapter 5, *Cumulative Impacts*.

7.4.2.2 Alternative 2 – Quiet Fireworks Display Events Alternative

The Quiet Fireworks Display Events Alternative would require the proposed new fireworks display events along the National City and Chula Vista Bayfronts to be quiet fireworks display events that would not exceed a noise limit of 120 A-weighted decibels (dBA).¹ For this type of fireworks display event, the pyrotechnicians design a fireworks package that relies on the quieter types of fireworks. These fireworks display events would eliminate the use of “salute,” rocket, and mine fireworks altogether (*salute* fireworks, also known as maroon fireworks, are fireworks designed to make a very loud bang and an intense flash of light) and instead focus on rich color effects and tight visual choreography in order to garner similar entertainment value out of the display. Generally, fireworks used in quiet fireworks display events would include fountains, wheels, cakes (such as crossettes,

¹ 120 dBA maximum impulse sound pressure level as measured at a horizontal distance of 15 meters from the testing point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.

comets, spinners or turbillions, colored stars, fish or bees, and falling leaves), Chinese lanterns, and lanceworks (United Kingdom Fireworks Review 2016). It is important to note that the use of these fireworks would create a quieter, but not a silent, fireworks display event. In addition, quiet fireworks display events would involve fireworks that are concentrated closer to the ground with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell. Therefore, while these fireworks display events would be in the same locations as those specified for the proposed project (as detailed in Chapter 3, *Project Description*), i.e., on barges, because quiet fireworks display events would rely on fireworks that cannot achieve the same heights or the same magnitude as traditional fireworks displays, they would not be as prominently visible and the viewing area would be smaller than that which exists for the proposed project. The Quiet Fireworks Display Events Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on nearby sensitive receptors.

7.4.2.3 Alternative 3 – No Salute Fireworks Alternative

Salute fireworks, which are fireworks specifically designed to create a loud bang and intense flash of light, are the loudest type of firework. The primary purpose of salute shells is to announce the beginning and end of the display and produce a loud, percussive effect. From a distance, these shells sound similar to cannon fire when detonated (NMFS 2006). While the noise level of these fireworks varies by type, a typical linear (unweighted) peak noise level directly below a 3-inch salute exploding at its normal altitude is 140 decibels (dB) (Journal of Pyrotechnics, Inc. 2012). The No Salute Fireworks Alternative would have the same characteristics as all of the fireworks display events that compose the proposed project, including the same total pounds of fireworks per event (as outlined in Table 3-2 in Chapter 3, *Project Description*), but would prohibit the use of salute fireworks and limit the noise produced by all fireworks during fireworks display events to a maximum of 140 dB.² Rockets, mines, and all firework types described above under the Section 7.4.2.2, *Quiet Fireworks Display Event Alternative*, would be allowed as long as they do not exceed the 140 dB noise limit. The No Salute Fireworks Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on sensitive receptors.

7.5 Analysis of Alternatives

This section discusses each of the project alternatives and determines whether each alternative would avoid or substantially reduce any of the significant impacts of the proposed project. This section also identifies any additional impacts resulting from the alternatives that would not result from the proposed project and considers the alternatives' respective relationships to the proposed project's basic objectives. A summary comparison of the significant impacts of the proposed project and the alternatives under consideration is included as Table 7-2 at the end of this chapter.

² 140 dB linear (unweighted) peak sound pressure level as measured directly under the shell burst occurring at its normal altitude, using a Type 1 sound measuring device with a free-field microphone at a height of 1 meter above the ground.

7.5.1 Analysis of Alternative 1 – No Project Alternative

7.5.1.1 Aesthetics and Visual Resources

Under the No Project Alternative, the proposed ordinance that would govern fireworks display events would not be adopted and no new fireworks display events would occur. Existing fireworks display events as described in Chapter 2, Section 2.3.1, *Existing Fireworks Display Events*, would continue to occur within San Diego Bay and the Imperial Beach Oceanfront under this alternative. In addition, the four proposed new fireworks display events described in Chapter 3, *Project Description*, would not occur. As discussed in Section 4.1, *Aesthetics and Visual Resources*, the proposed project would result in less-than-significant impacts related to light and glare. Under the No Project Alternative, there would be no increase in light or glare in the project areas related to proposed new fireworks display events and no impacts would occur. Therefore, this alternative would have less impact on aesthetics and visual resources than the proposed project.

7.5.1.2 Air Quality and Health Risk

Under the No Project Alternative, the proposed new fireworks display events would not occur, which would avoid impacts associated with exceedances of thresholds related to particulate matter 2.5 microns or less in diameter (PM_{2.5}) emissions. The No Project Alternative would also not include adoption of the proposed ordinance, and existing fireworks display events would not be subject to its conditions, such as idling limits on delivery trucks, reducing the amount of copper in larger displays, and using alternative fireworks. Without adoption of the ordinance, existing air quality and health risk conditions would not be improved. Nonetheless, because the number of fireworks display events would be reduced under this alternative, it would result in an associated reduction in PM_{2.5} emissions. Therefore, this alternative would result in less air quality impacts than the proposed project.

7.5.1.3 Biological Resources

Under the No Project Alternative, there would be no new fireworks display events occurring on barges in San Diego Bay near the Chula Vista and National City Bayfronts. Therefore, activities that would result in direct and/or indirect impacts on biological resources, including increased boat traffic, damage to eelgrass beds from barges and tugs, fireworks- and human-generated trash and debris, and foot traffic on sensitive habitat areas, would not occur. Furthermore, the proposed ordinance, which includes conditions of approval related to biological resources, would also not be adopted. These conditions of approval would include post-show clean-up requirements, best management practices, eelgrass protection requirements, requirements for reducing the use of non-biodegradable fireworks components, removal of fireworks packaging, and security, signage, and education measures, as well as noise and light reduction measures to protect biological resources during fireworks display events. Without adoption of the ordinance, these conditions of approval would not be applied to existing fireworks display events, and existing biological resources conditions would not be improved. Nonetheless, because no new fireworks display events would occur under this alternative, impacts on biological resources under the No Project Alternative would be less than the proposed project.

7.5.1.4 Greenhouse Gas Emissions, Climate Change, and Energy

Under the No Project Alternative, proposed new fireworks display events would not occur, which would result in a minor reduction in greenhouse gas (GHG) emissions. While the proposed project would result in less-than-significant impacts on GHG emissions, the No Project Alternative would not have any GHG emissions or other climate change impacts, including effects of sea-level rise (SLR), and, as such, impacts under the No Project Alternative would be less than the proposed project.

Regarding energy use, under the No Project Alternative, no tugs would be necessary to tow and hold barges that would be used as launch sites for the proposed new fireworks display events, and no deliveries of firework supplies would be required. Because the No Project Alternative would not require any energy consumption, impacts on energy under this alternative would be less than the proposed project.

7.5.1.5 Hazards and Hazardous Materials

The No Project Alternative would result in no new fireworks display events along the National City and Chula Vista Bayfronts, and no impacts would occur related to hazards or hazardous materials. Although proposed project-related hazards and hazardous materials impacts were identified as being less than significant when conducted in compliance with state and local regulations and under the oversight of a licensed fireworks operator and the Fire Marshal of the responsible city fire department, the No Project Alternative would have no potential for additional hazards, and impacts would be less than the proposed project.

7.5.1.6 Hydrology and Water Quality

Under the No Project Alternative, proposed new fireworks display events would not occur and potential significant water quality impacts related to the proposed project, including surface water contamination from an increase of fireworks debris and human-generated trash, would not occur. Furthermore, the proposed ordinance would also not be adopted under this alternative. The proposed ordinance contains conditions of approval to protect water quality, including preparation of a Fireworks Best Management Practice Plan, pre- and post-display cleanup procedures for fireworks debris and human-generated trash and litter, and a requirement to reduce the amount of non-biodegradable fireworks components. These conditions would ensure that less debris and human-generated trash remains and/or gets in the Bay and oceanfront areas following both existing and proposed new fireworks display events. Without adoption of the ordinance, these conditions of approval would not be applied to existing fireworks display events, and existing water quality conditions would not be improved. While this alternative would avoid potential water quality impacts in National City and Chula Vista, it would also avoid potential water quality improvements throughout San Diego Bay and the Imperial Beach Oceanfront related to existing fireworks display events. Nonetheless, because no new fireworks display events would occur under this alternative, impacts on water quality under the No Project Alternative would be less than the proposed project.

7.5.1.7 Land Use and Planning

Under the No Project Alternative, proposed new fireworks display events would not occur, and the No Project Alternative, like the proposed project, would be consistent with all applicable land use

plans and policies, including applicable habitat conservation plans and natural community conservation plans. The proposed project would result in less-than-significant land use and planning impacts related to the proposed new fireworks display events and no impacts related to the adoption of the proposed ordinance. Nonetheless, the No Project Alternative would result in no land use and planning impacts and thus would have less impact on land use and planning than the proposed project.

7.5.1.8 Noise and Vibration

Under the No Project Alternative, proposed new fireworks display events would not occur and, as such, the significant and unavoidable noise impacts that would occur under the proposed project, including temporary substantial or periodic increases in ambient noise levels, would be avoided. The No Project Alternative would also not include adoption of the proposed ordinance that includes conditions of approval that would result in minor reductions of noise at sensitive receptors. However, the avoidance of noise that would occur under the No Project Alternative would eliminate the significant unavoidable noise impact of the proposed project. Therefore, this alternative would have less impact on noise than the proposed project.

7.5.1.9 Public Services and Facilities

Under the No Project Alternative, proposed new fireworks display events would not occur and, as such, the associated temporary increase in demand on public services, including police and fire departments, as well as the U.S. Coast Guard (USCG) and the Harbor Police Department (HPD), would not occur. As discussed in Section 4.9, *Public Services and Facilities*, the proposed project would result in less-than-significant impacts related to public services. Nonetheless, because the No Project Alternative would result in no impacts on public services, this alternative would have less impact on public services than the proposed project.

7.5.1.10 Transportation, Circulation, and Parking

Under the No Project Alternative, proposed new fireworks display events would not occur and, as such, there would not be a temporary increase in vehicle, pedestrian, and bicycle volumes that could result in conflicts between these modes of transportation, nor would there be significant and unavoidable impacts associated with decreased performance of pedestrian and bicycle facilities and inadequate parking supply. The No Project Alternative would result in no impacts on transportation, circulation, and parking, and this alternative would avoid or substantially reduce impacts compared to the proposed project.

7.5.1.11 Other Impacts

This alternative would not result in any new or greater impacts on other environmental resources than the proposed project. Like impacts under the proposed project, impacts under the No Project Alternative related to the following resources would not be significant: agriculture and forestry resources; cultural resources; geology and soils; mineral resources; population and housing; recreation; and utilities and service systems.

7.5.1.12 Relationship to Project Objectives

The No Project Alternative would not meet most of the project objectives because it would not include the adoption of an ordinance that would include policies, performance standards, or other requirements that could be applied to all fireworks display events requiring discretionary action by the District or are operated by the District's tenants; it would not allow for the continued and future occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach in a manner that considers the health, safety and welfare of people, property, and the environment (because it would not include adoption of an ordinance that could achieve these goals for existing fireworks display events); and it would not enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available. However, the No Project Alternative would meet one of the project objectives, which would be to allow the continued occurrence of the existing traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that provide popular and region-wide ways to celebrate and express civic pride.

7.5.2 Analysis of Alternative 2 – Quiet Fireworks Display Events Alternative

7.5.2.1 Aesthetics and Visual Resources

Under the Quiet Fireworks Display Events Alternative, the proposed new fireworks display events would involve the use of fireworks that are quieter, which, generally, are concentrated closer to the ground and do not reach the heights of louder, more traditional fireworks. Because these fireworks would not be launched as high in the air as traditional fireworks, spillover light and glare produced by fireworks would not reach as far as spillover light and glare produced by fireworks under the proposed project. While light and glare impacts were determined to be less than significant under the proposed project, this alternative would result in less impacts.

7.5.2.2 Air Quality and Health Risk

This alternative would use a similar amount of fireworks as the proposed project and could result in similar generation of PM_{2.5} emissions. Also, because quieter fireworks display events tend to be more colorful, this alternative could result in an increased release of copper and other toxic air emissions. Because quiet fireworks are concentrated closer to the ground and do not reach the heights of louder, more traditional fireworks, the dispersal of emissions associated with the projectile components of displays may be reduced because these fireworks are not shot as high into the air, which could result in a smaller dispersal area of particulate emissions and potentially higher pollutant concentrations closer to the fireworks display events. Thus, because fireworks display events occurring under this alternative would likely occur closer to viewing audiences, the concentration of these emissions could be higher for those audiences and could result in significant health risk impacts on nearby spectators given the reduced dispersal of pollutants. Therefore, while the dispersal area would be smaller, because this alternative could result in a higher concentration of particulate emissions closer to viewing audiences, air quality impacts would be similar to the proposed project, but health risk impacts would be greater than those of the proposed project. As such, this alternative would result in greater impacts compared to the proposed project.

7.5.2.3 Biological Resources

Under the Quiet Fireworks Display Events Alternative, the proposed new fireworks display events would make use of quieter types of fireworks, which would be closer to ground level and involve smaller viewing areas. However, these displays would still take place on barges within San Diego Bay near the National City and Chula Vista Bayfronts. While viewership may be slightly decreased, this alternative would likely still result in a substantial number of visitors both at the landside and waterside viewing areas. Direct and indirect impacts on green sea turtles and avian species related to increased boating activity, eelgrass beds from barges and tugs, foot traffic on sensitive habitat areas, and generation of trash and debris by fireworks and visitors could still occur. This alternative would include adoption of an ordinance that includes post-show debris cleanup requirements and security, signage, and education measures, best management practices, eelgrass protection requirements, removal of fireworks packaging, and requirements for reducing the use of non-biodegradable fireworks components that would reduce impacts on these biological resources to less-than-significant levels. Furthermore, the proposed ordinance for this alternative would also include light and noise reduction measures for fireworks display events, which would further reduce disturbances to sensitive avian species from firework-generated light and noise by eliminating the use of salute, rocket, and mine fireworks altogether. Therefore, similar to the proposed project but at a reduced level, this alternative would result in less-than-significant impacts on nesting species. As such, impacts on biological resources under the Quiet Fireworks Display Event Alternative would be less than the proposed project.

7.5.2.4 Greenhouse Gas Emissions, Climate Change, and Energy

Similar to the proposed project, direct and indirect GHG emissions generated under this alternative would not exceed thresholds. GHG emissions and other climate change impacts, such as limited exposure to effects of SLR, occurring under this alternative would be similar to those of the proposed project.

Regarding energy, compared to the proposed project, the Quiet Fireworks Display Event Alternative would result in a similar number of barges, require tugs to tow the barges into place and hold them for that fireworks display event, and require similar deliveries to transport fireworks materials to the displays. This would result in a similar demand for energy (diesel fuel) as compared to the proposed project. In addition, this alternative would include adoption of an ordinance that would place restrictions on truck idling time and would require the use of alternative fireworks technologies. Therefore, this alternative would result in similar less-than-significant energy impacts compared to the proposed project.

7.5.2.5 Hazards and Hazardous Materials

Similar to the proposed project, the Quiet Fireworks Display Event Alternative would require compliance with state and local laws related to fireworks display events, including safety measures, transport, and cleanup measures. Additionally, proposed new fireworks display events under this alternative would require occasional transport, delivery, and placement of fireworks on barges within and/or adjacent to San Diego Bay. The fireworks would be set up at a loading facility yard in accordance with the California Department of Forestry and Fire Protection's *Fireworks in California* handbook, which is enforced by the responsible city fire department with jurisdiction over each show. The Quiet Fireworks Display Event Alternative would also involve oversight by licensed

fireworks operators and the Fire Marshal of the responsible city fire department. Overall, this alternative would result in less-than-significant impacts related to hazards and hazardous materials, similar to the proposed project.

7.5.2.6 Hydrology and Water Quality

The number of proposed new fireworks display events that would occur under the Quiet Fireworks Display Event Alternative would be similar to the proposed project and, as such, this alternative would result in a similar amount of fireworks-generated debris and human-generated trash. Like the proposed project, the Quiet Fireworks Display Event Alternative would include adoption of an ordinance that requires the preparation of a Fireworks Best Management Practices Plan prior to every publicly advertised fireworks display event, use of alternative fireworks, monitoring and recovery of pre- and post-show debris, procedures for human-generated trash and litter, and a reduction in the amount of non-biodegradable fireworks components, such as plastic and aluminum labels and wrapping. As such, the Quiet Fireworks Display Event Alternative has the potential to result in significant and unavoidable impacts on water quality related to fireworks-generated debris falling into the Bay and less-than-significant impacts with mitigation implemented related to human-generated trash and litter. Therefore, this alternative would result in similar impacts on water quality as the proposed project.

7.5.2.7 Land Use and Planning

Under the Quiet Fireworks Display Events Alternative, fireworks display events would be generally less intense from a light and noise perspective compared to the proposed project. Regardless, this alternative, like the proposed project, would be consistent with all applicable land use plans and policies, including the Port Master Plan (PMP) and San Diego Unified Port District Code, as well as applicable habitat conservation plans and natural community conservation plans. Land use and planning impacts would be less than significant under this alternative, and impacts would be similar to the proposed project.

7.5.2.8 Noise and Vibration

The Quiet Fireworks Display Event Alternative would involve the use of quieter fireworks, which, by their nature, would reduce the amount of noise generated by the proposed new fireworks display events. Quiet fireworks display events would involve fireworks that are concentrated closer to the ground, with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell. Also, because quiet fireworks would be detonated closer to ground level, sound generated by the fireworks would be better shielded by buildings and other structures so that noise would be more quickly attenuated as it propagates into the surrounding area when compared to the proposed project. Overall, this alternative would substantially reduce noise impacts compared to the proposed project, both by reducing maximum noise levels and by reducing the area over which significant impacts would occur; however, some significant impacts would likely still occur under this alternative because some of the noise generated by these fireworks display events could still result in a substantial periodic or temporary increases in ambient noise levels for nearby sensitive receptors in the cities of National City, Chula Vista, or Coronado. Nonetheless, this alternative would result in less noise impacts than the proposed project.

7.5.2.9 Public Services and Facilities

Under the Quiet Fireworks Display Event Alternative, the overall viewing areas for the proposed new fireworks display events would be smaller than those under the proposed project because quiet fireworks are concentrated closer to the ground and do not reach the heights of louder, more traditional fireworks. However, it is still expected that this alternative would draw substantial numbers of people to the various viewing locations, especially during the Fourth of July fireworks display events. As such, an increased demand on public services, including the National City and Chula Vista police and fire departments, as well as USCG and HPD, would occur under this alternative. Similar to the proposed project, this alternative would be subject to emergency response plans for fireworks display events prepared by public safety agencies. With response plans in place, impacts on public services would be less than significant, similar to the proposed project.

7.5.2.10 Transportation, Circulation, and Parking

As noted above, although the number of available viewing areas would likely be reduced under this alternative compared to the proposed project, the Quiet Fireworks Display Event Alternative would still draw a substantial number of viewers to the various viewing locations. Therefore, there would still be a substantial temporary increase in vehicle, pedestrian, and bicycle volumes that could result in conflicts between these modes of transportation, and significant and unavoidable impacts associated with decreased performance of pedestrian and bicycle facilities and inadequate parking supplies would potentially occur under this alternative. However, the overall number of spectators would be reduced and, as such, impacts on transportation, circulation, and parking would be reduced compared to the proposed project.

7.5.2.11 Other Impacts

This alternative would not result in any new or greater impacts on other environmental resources than the proposed project. Like impacts under the proposed project, impacts under the Quiet Fireworks Display Event Alternative related to the following resources would not be significant: agriculture and forestry resources; cultural resources; geology and soils; mineral resources; population and housing; recreation; and utilities and service systems.

7.5.2.12 Relationship to Project Objectives

The Quiet Fireworks Display Event Alternative would meet Objectives #1 and #3 (partially) because it would include adoption of an ordinance that would establish policies and performance standards that would be applied to fireworks display events occurring in and around San Diego Bay and the Pacific Ocean near Imperial Beach. In addition, it would allow for the continued occurrence of existing and future occurrence of proposed new fireworks display events in and around San Diego Bay and near Imperial Beach that require discretionary action by the District or are operated by the District's tenants in a manner that considers the health, safety, and welfare of people, property, and the environment. However, this alternative would only partially meet Objectives #2 and #3 because these fireworks display events, while providing a popular and region-wide way to celebrate and express civic pride, would differ significantly from traditional fireworks display events because they would not achieve the same heights and sounds as the fireworks used in traditional Fourth of July and other celebrations. This alternative would also not meet Objective #4. A quiet fireworks display event would be concentrated lower to the ground and, as such, it would limit the vantage points

from which these events would be visible and would decrease the number of spectators that would be able to view these events. Therefore, this alternative would not accomplish the objective of enhancing the visitor-serving experience of viewing fireworks display events, nor would the vantage points be enhanced.

7.5.3 Analysis of Alternative 3 – No Salute Fireworks Alternative

7.5.3.1 Aesthetics and Visual Resources

Under the No Salute Fireworks Alternative, salute fireworks, which are fireworks specifically designed to make loud booming noises and generate an intense flash of light, would be prohibited. This would limit some of the types of fireworks that achieve the highest elevations and generate intense flashes of light; however, other types of fireworks, such as rockets and mines, which also reach high elevations, would still be allowed. Therefore, light and glare resulting from fireworks, while prominent, would be brief and infrequent, resulting in less-than-significant impacts. Consequently, light and glare impacts under this alternative would be similar to those of the proposed project.

7.5.3.2 Air Quality and Health Risk

The No Salute Fireworks Alternative would only prohibit a certain type of firework, but the quantity of fireworks that would be detonated during fireworks display events under this alternative would be similar to that under the proposed project. Therefore, this alternative would result in similar impacts related to air quality as the proposed project.

7.5.3.3 Biological Resources

The No Salute Fireworks Alternative would attract a similar number of viewers as the proposed project and result in similar quantities of fireworks- and human-generated trash and debris. Similar to the proposed project, this alternative would also require the use of tugs and barges that could affect sensitive eelgrass beds and would result in similar levels of boat traffic and foot traffic that could affect green sea turtles and avian species. The proposed project includes adoption of an ordinance that includes noise reduction measures (i.e., prohibits “salutes” or “reports” during the initial 25 percent of the duration of any display that occurs between February 15 and September 15 [nesting season]). However, because the loudest types of fireworks would be prohibited during the entire display, disturbances to avian species from noise generated by fireworks would be reduced under this alternative compared to the proposed project. Nonetheless, impacts on biological resources would be less than significant under this alternative, similar to the proposed project.

7.5.3.4 Greenhouse Gas Emissions, Climate Change, and Energy

Similar to the proposed project, direct and indirect GHG emissions generated under this alternative would not exceed thresholds. GHG emissions and other climate change impacts, such as limited exposure to effects of SLR, occurring under this alternative would be similar to those of the proposed project.

Regarding energy use, this alternative would require a similar number of tugs to tow barges into place and hold them for the proposed new fireworks display events in the Bay and a similar size and number of deliveries as under the proposed project. This would result in a similar demand for energy (diesel fuel) as the proposed project. In addition, the No Salute Fireworks Alternative would involve adoption of an ordinance that would place restrictions on truck idling time and would require the use of alternative fireworks technologies. Therefore, this alternative would result in similar less-than-significant energy impacts as the proposed project.

7.5.3.5 Hazards and Hazardous Materials

Similar to the proposed project, the No Salute Fireworks Alternative would require compliance with state and local laws related to fireworks display events, including safety measures, transport, and cleanup measures. Additionally, proposed new fireworks display events under this alternative would require occasional transport, delivery, and placement of fireworks on barges within and/or adjacent to San Diego Bay. The fireworks would be set up at a loading facility yard in accordance with the California Department of Forestry and Fire Protection's *Fireworks in California* handbook, which is enforced by the responsible city fire department with jurisdiction over each show. The No Salute Fireworks Alternative would also involve oversight by licensed fireworks operators and the Fire Marshal of the responsible city fire department. Overall, this alternative would result in less-than-significant impacts related to hazards and hazardous materials, similar to the proposed project.

7.5.3.6 Hydrology and Water Quality

The number of fireworks display events occurring under the No Salute Fireworks Alternative would be similar to the proposed project and, as such, this alternative would result in a similar amount of fireworks-generated debris and human-generated trash and litter within major viewing areas. Like the proposed project, the No Salute Fireworks Alternative would include adoption of an ordinance that requires the preparation of a Fireworks Best Management Practices Plan prior to every publicly advertised fireworks display event, use of alternative fireworks, monitoring and recovery of pre- and post-show debris, procedures for human-generated trash and litter, and a reduction in the amount of non-biodegradable fireworks components, such as plastic and aluminum labels and wrapping. As such, the No Salute Fireworks Alternative has the potential to result in significant and unavoidable impacts on water quality related to fireworks-generated debris falling into the Bay and less-than-significant impacts with mitigation implemented related to human-generated trash and litter. Therefore, this alternative would result in similar impacts on water quality as the proposed project.

7.5.3.7 Land Use and Planning

Under the No Salute Fireworks Alternative, fireworks display events would be generally less intense from a noise perspective compared to the proposed project. However, this alternative, like the proposed project, would be consistent with all applicable land use plans and policies, including the PMP and San Diego Unified Port District Code, as well as applicable habitat conservation plans and natural community conservation plans. Land use and planning impacts would be less than significant under this alternative, and impacts therefore would be similar to the proposed project.

7.5.3.8 Noise and Vibration

The No Salute Fireworks Alternative would prohibit the use of salute fireworks, which are the loudest types of fireworks. Therefore, noise impacts would be reduced under this alternative. However, it is expected that significant and unavoidable impacts related to substantial temporary or periodic increases in ambient noise levels would still occur, particularly during the Fourth of July fireworks display events. Overall, this alternative would result in reduced noise impacts compared to the proposed project.

7.5.3.9 Public Services and Facilities

Under the No Salute Fireworks Alternative, viewing areas for the proposed new fireworks display events would be similar to those of the proposed project, and it is expected that this alternative would draw substantial numbers of people to the various viewing areas during the larger fireworks display events, such as the Fourth of July celebrations. As such, an increased demand on public services, including the National City and Chula Vista police and fire departments, as well as USCG and HPD, would occur under this alternative. Similar to the proposed project, this alternative would be subject to emergency response plans for fireworks display events. With response plans in place, impacts on public services would be less than significant, similar to the proposed project.

7.5.3.10 Transportation, Circulation, and Parking

As noted above, the No Salute Fireworks Alternative would draw a similar number of viewers to the various event viewing areas as the proposed project, especially during the Fourth of July fireworks display events. Therefore, there would still be a substantial temporary increase in vehicle, pedestrian, and bicycle volumes that could result in conflicts between these modes of transportation, and significant and unavoidable impacts associated with decreased performance of pedestrian and bicycle facilities and inadequate parking supplies would potentially occur under this alternative. As such, impacts would be similar to the proposed project.

7.5.3.11 Other Impacts

This alternative would not result in any new or greater impacts on other environmental resources than the proposed project. Like the proposed project, impacts on the following resources would not be significant: agriculture and forestry resources; cultural resources; geology and soils; mineral resources; population and housing; recreation; and utilities and service systems.

7.5.3.12 Relationship to Project Objectives

The No Salute Fireworks Alternative would meet Objectives #1, #3 (partially), and #4 because it would include adoption of an ordinance that would establish policies, performance standards, or other requirements that would be applied to fireworks display events; it would allow for the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and near the Imperial Beach Oceanfront in a manner that considers the health, safety, and welfare of people, property, and the environment, albeit at a slightly reduced intensity; and it would continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands. However, these fireworks display events generally would differ significantly from traditional fireworks display

events because they would not achieve all of the same loud sounds associated with fireworks used in traditional Fourth of July and other celebrations. Therefore, this alternative would not meet Objectives #2 and #3 (partially) to allow for the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District, including on the Fourth of July, which provide a popular and region-wide way to celebrate and express civic pride.

7.5.4 Environmentally Superior Alternative

Pursuant to CEQA, the EIR is required to identify the environmentally superior alternative. Although the No Project Alternative reduces the greatest number of significant impacts, CEQA requires that when the environmentally superior alternative is the No Project Alternative, another alternative should be identified. Therefore, as indicated in Table 7-2, the Quiet Fireworks Display Event Alternative would be the environmentally superior alternative. Because it would involve the use of quieter fireworks, the Quiet Fireworks Display Event Alternative would reduce the amount of noise generated by the proposed new fireworks display events, and therefore would reduce significant and unavoidable noise impacts compared to the proposed project. Consequently, as documented throughout this section, impacts associated with other resources, such as light and glare, biological resources, and transportation, circulation, and parking, would also be reduced. However, the Quiet Fireworks Display Events Alternative may not meet fundamental project objectives.

Table 7-2. Summary of Impacts of Alternatives Relative to the Proposed Project

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: Quiet Fireworks Display Events Alternative	Alternative 3: No Salute Fireworks Alternative
Aesthetics and Visual Resources	Less than Significant	-2	-1	0
Air Quality and Health Risk	Less than Significant w/Mitigation	-2	+1	0
Biological Resources	Less than Significant w/Mitigation	-1	-1	-1
Greenhouse Gas Emissions, Climate Change, and Energy Use	Less than Significant	-1	0	0
Hazards and Hazardous Materials	Less than Significant	-1	0	0
Hydrology and Water Quality	Significant and Unavoidable	-1	0	0
Land Use and Planning	Less than Significant	-1	0	0
Noise and Vibration	Significant and Unavoidable	-2	-2	-1
Public Services and Facilities	Less than Significant	-2	0	0
Transportation, Circulation, and Parking	Significant and Unavoidable	-2	-1	0
Other Impacts	Less than Significant/No Impact	0	0	0
Total:¹		-15	-4	-2

Legend:

-2 = Substantially Reduced

-1 = Reduced

0 = Similar

+1 = Greater

+2 = Substantially Greater

¹ Lowest score is environmentally superior

Chapter 8

List of Preparers and Agencies Consulted

8.1 Lead Agency—San Diego Unified Port District

Real Estate Development

Shaun D. Sumner	Assistant Vice President
Wileen Manaois	Principal, Development Services

Planning & Green Port

Jason H. Giffen	Assistant Vice President
Mayra Medel	Project Manager/Senior Planner
Eileen Maher	Principal, Environmental Conservation
Brent Eastty	Senior Environmental Specialist
Ashley Wright	Associate Planner

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Jim Hutzelman	Manager, Business Development and Recreation Services
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Office of the General Counsel

Rebecca Harrington, Esq.	Deputy General Counsel
Michael Hogan, Esq.	Outside Counsel—Hogan Guiney

8.1 EIR Preparation—ICF

EIR Management

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Elyssa Figari	Senior Environmental Planner
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Holly Ayala	Environmental Planner
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Publication Staff

Saadia Byram	Editor
Kenneth Cherry	Editor
John Mathias	Editor

8.2 Biological Technical Study—Merkel & Associates

Keith Merkel	Principal Consultant
Holly Henderson	Senior Biologist

8.3 Water Quality Technical Report—Amec Foster Wheeler Environment & Infrastructure, Inc.

Barry J. Snyder, M.S.	Principal Marine Scientist
Chris Stransky, M.S.	Associate Marine Scientist
Kimberly Gobbi, M.S.	Senior Marine Scientist

8.4 Transportation Assessment—Chen Ryan Associates

Stephen Cook, P.E.	Project Engineer
Jonathan Sanchez	Project Engineer

8.5 Agencies, Organizations, and Persons Consulted

Agency/Company Name	Contact
California Department of Fish and Wildlife, Region 5	Gail K. Sevens
California Department of Transportation (Caltrans), District 11	Jacob M. Armstrong
California State Lands Commission	Cy R. Oggins, Randy Collins
Chula Vista Fire Department	Henry Muns
Chula Vista Police Department	Don Redmond
City of San Diego Fire Department	Doug Perry
City of San Diego Police Department	Tom Underwood
Coast Law Group, LLP	Marco Gonzalez, Sara S. Kent
Coronado 4 th of July Committee	David Szymanski
Coronado Fire Department	Mike Blood
Coronado Police Department Support Services	Mary Ann Castellano
Federal Aviation Administration	Mark Griffin
Federal Emergency Management Agency, Region 9	Gregor Blackburn
Imperial Beach Fire-Rescue Department	Tom Santos
National City Fire Department	Robert Hernandez
National City Police Department	Chris Sullivan
San Diego Air Pollution Control District	Bill Reeve
San Diego County Regional Airport Authority	Ed Gowens
San Diego County Sheriff's Department	Herbert Taft
San Diego Fire-Rescue Department	Karl Becker
San Diego Harbor Police Department	Donald Brick
San Diego Zoological Society	R. T. Patton
State of California, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit (SCH)	N/A
U.S. Coast Guard	Robert Cole
U.S. Fish and Wildlife Service, Region 8	Karen A. Goebel, Sandy Vissman

I hereby certify that the statements furnished above present the data and information required for this report to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signature: *Kathie Washington* Date: March 17, 2017

Kathie Washington, Project Manager, ICF

9.1 Chapter 1, Introduction

9.1.1 Personal Communications

Collins, Randy. Public land management specialist. California State Lands Commission, Land Management Division. August 24, 2016—call between District and ICF regarding NOP comments.

9.2 Chapter 2, Environmental Setting

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9.3 Chapter 3, Project Description

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9.5 Section 4.2, Air Quality and Health Risk

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Reeve, Bill, Associate Meteorologist, San Diego Air Pollution Control District. Email with ICF regarding pre-processed meteorological data, March 29, 2016.

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San Diego Unified District
Document No. 66738
Filed 06/06/17

PORT of SAN DIEGO

Final Environmental Impact Report

**San Diego Bay and Imperial Beach Oceanfront
Fireworks Display Events Project**



Volume III of III

PREPARED FOR:

San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

PREPARED BY:

ICF
525 B Street, Suite 1700
San Diego, CA 92101

May 2017

(UPD #EIR-2015-115; SCH #2015081013)

DRAFT ENVIRONMENTAL IMPACT REPORT SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT FIREWORKS DISPLAY EVENTS PROJECT

TECHNICAL APPENDICES

VOLUME II OF II

PREPARED FOR:

San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101
Contact: Wileen Manaois, Principal
(619) 686-6282

PREPARED BY:

ICF
525 B Street, Suite 1700
San Diego, CA 92101

March 2017



ICF. 2017. Draft Environmental Impact Report, San Diego Bay and Imperial Beach
Oceanfront Fireworks Display Events Project. March. Prepared for: San Diego
Unified Port District.

Appendix A
Notice of Preparation and Initial Study/Environmental
Checklist



San Diego Unified Port District
P.O. Box 120488
San Diego, California 92112-0488
(619) 686-6283

**NOTICE OF PREPARATION
of a
DRAFT ENVIRONMENTAL IMPACT REPORT**

PROJECT TITLE: SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT FIREWORKS DISPLAY EVENTS PROJECT (UPD #EIR-2015-115)

APPLICANT: San Diego Unified Port District

LOCATION: San Diego Bay and Imperial Beach Oceanfront, San Diego County, CA

REFERENCE: California Code of Regulations, Title 14, Sections 15082(a), 15103, 15375.

The San Diego Unified Port District (District) will be the Lead Agency in preparing an Environmental Impact Report (EIR) for the project (proposed project or project) identified above. The District is soliciting input and feedback from various agencies, stakeholders, and the public pertaining to the scope and content of the environmental information that will be included in the EIR. For certain agencies, this may be germane to statutory responsibilities in connection with the proposed project. An agency may need to use the proposed project's EIR when considering its permit or other approval for the project. The project description, location, and possible environmental effects of the proposed project are contained in the attached materials.

Due to the time limits mandated by state law, your comments must be sent at the earliest possible date but no later than 30 days after receiving this notice. **Comments regarding environmental concerns will be accepted until 5:00 p.m. on Tuesday, September 8, 2015,** and should be mailed to: San Diego Unified Port District, Environmental & Land Use Management Department, 3165 Pacific Highway, San Diego, CA 92101 or emailed to: mmedel@portofsandiego.org.

A public scoping meeting open house regarding the proposed EIR will be held on Tuesday, August 25, 2015, from 5:00 p.m. to 7:00 p.m. at the San Diego Unified Port District Administration Building, Training Room, 3165 Pacific Highway, San Diego, CA 92101.

For questions on this Notice of Preparation, please contact Mayra Medel, Senior Redevelopment Planner, at 619-686-6283.

Signature: 

Jason H. Giffen
Director, Environmental & Land Use Management

Date: 8/6/2015

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**NOTICE OF PREPARATION
of a
DRAFT ENVIRONMENTAL IMPACT REPORT
for the
SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT
FIREWORKS DISPLAY EVENTS PROJECT
(UPD #EIR-2015-115)**

The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. Fireworks display events include the Big Bay Boom and other smaller events operated by the San Diego Unified Port District's (District) tenants. The project proponent/applicant is the District.

PROJECT LOCATION

The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront in San Diego County, California. Figure 1 shows the locations of San Diego Bay and the Imperial Beach Oceanfront.

PROJECT DESCRIPTION

The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. Fireworks display events include the Big Bay Boom and other smaller events operated by the District's tenants. Typically, fireworks associated with these display events are detonated from piers, flight decks, and/or barges located adjacent to and in the waters of San Diego Bay, as well as the Imperial Beach Oceanfront. Spectators for each of the events typically gather in public parks and public areas surrounding the event locations, utilizing the surrounding roadway network and public parking facilities.

Based on preliminary data and information collection efforts, currently approximately 50 fireworks display events take place or are allowed to take place in and around San Diego Bay and the Pacific Ocean near Imperial Beach annually, as indicated in Table 1 below. The proposed project assumes an annual growth rate of approximately 2% in the number of fireworks display events to occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach.

Table 1. Existing and Authorized Fireworks Display Events			
Time of Year	Approximate Number of Fireworks Display Events	Location(s) of Fireworks Display Events	Approximate Duration of Each Fireworks Display Event
January – March	7	North Embarcadero	5 – 10 minutes
April – June	9	North Embarcadero and South Embarcadero	5 – 10 minutes
July – September	28	North Embarcadero,	5 – 20 minutes

		South Embarcadero, Chula Vista, Imperial Beach Oceanfront, and Glorietta Bay	
October – November	6	North Embarcadero and Chula Vista	5 – 10 minutes

APPLICANT

San Diego Unified Port District

NOTICE OF PREPARATION

Publication of this Notice of Preparation (NOP) initiates the District’s compliance with the California Environmental Quality Act (CEQA) for the proposed project. The NOP is the first step in the CEQA process. It describes the proposed project and is distributed to responsible agencies, trustee agencies, involved federal agencies, and the general public. As stated in CEQA Guidelines, Section 15375, the purpose of the NOP is “to solicit guidance from those agencies as to the scope and content of the environmental information to be included in the EIR.”

The potential environmental impacts are described below and contained in the attached Initial Study/ Environmental Checklist.

The NOP provides an opportunity for agencies and the general public to comment on the scope and content of the environmental review of a proposed project. Comments are requested within 30 days of receipt of the NOP; therefore, **comments will be accepted until 5:00 p.m. on Tuesday, September 8, 2015.** Comments regarding environmental concerns should be mailed to:

San Diego Unified Port District
 Environmental & Land Use Management Department
 3165 Pacific Highway
 San Diego, CA 92101

or emailed to: mmedel@portofsandiego.org

The District, as Lead Agency pursuant to CEQA, will review the public comments on the NOP to determine what issues should be addressed in the EIR.

Other opportunities for the public to comment on the environmental effects of the proposed project include:

- **A public scoping meeting open house that will be held on Tuesday, August 25, 2015, from 5:00 p.m. to 7:00 p.m. at the San Diego Unified Port District Administration Building, Training Room, 3165 Pacific Highway, San Diego, CA 92101**
- A minimum 45-day public review and comment period for the Draft EIR
- A public hearing for the Board of Port Commissioners to consider certification of the EIR

ENVIRONMENTAL CONSIDERATIONS

The EIR will address the following potential project-related and cumulative environmental effects of the proposed project: aesthetics, air quality, biological resources, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services,

transportation and traffic (including parking), utilities, service systems, and energy, and other potential impacts identified during the NOP process. The EIR will also address feasible mitigation measures and a reasonable range of alternatives, as well as the additional mandatory sections required by CEQA. The District will also prepare a mitigation monitoring and reporting program to address the potential significant impacts of the proposed project.

COMMENTS

This NOP is available for a 30-day public review period that **starts on Friday, August 7, 2015 and ends at 5:00 p.m. on Tuesday, September 8, 2015**. Comments regarding the scope and content of the environmental information that should be included in the EIR and other environmental concerns should be mailed to:

San Diego Unified Port District
Environmental & Land Use Management Department
3165 Pacific Highway
San Diego, CA 92101

or emailed to mmedel@portofsandiego.org

PUBLIC SCOPING MEETING OPEN HOUSE

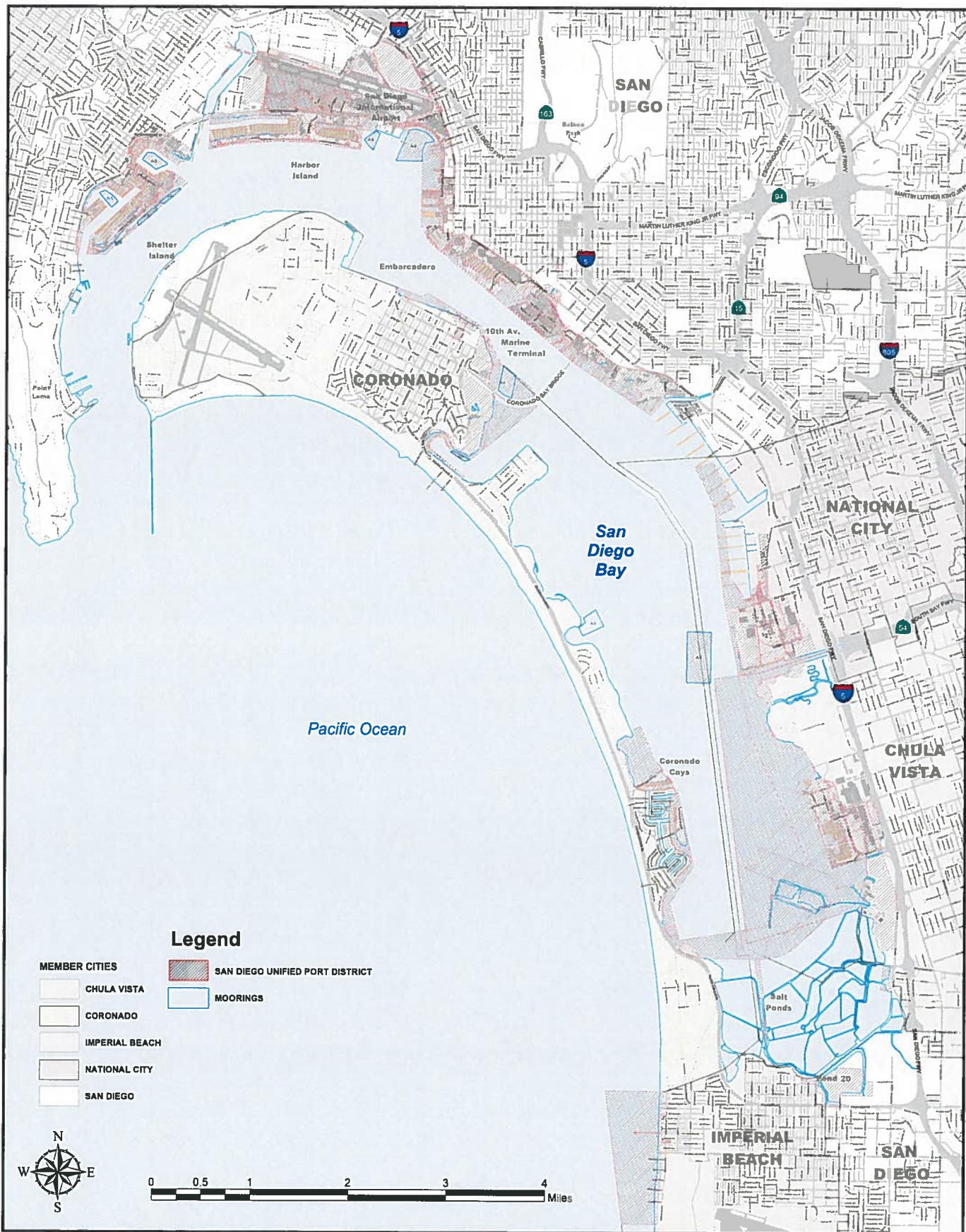
A public scoping meeting open house to solicit comments on the scope and content of the EIR for the proposed project will be held on **Tuesday, August 25, 2015, from 5:00 p.m. to 7:00 p.m. at the San Diego Unified Port District Administration Building, Training Room, 3165 Pacific Highway, San Diego, CA 92101.**

For questions regarding this NOP, please contact Mayra Medel, Senior Redevelopment Planner, at 619-686-6283.

ATTACHMENTS

Figure 1, Project Vicinity Map
Initial Study/Environmental Checklist

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Architectural and Mapping Services (GIS Section)

Figure 1. Project Vicinity Map

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**SAN DIEGO BAY AND
IMPERIAL BEACH OCEANFRONT
FIREWORKS DISPLAY EVENTS PROJECT
INITIAL STUDY/ENVIRONMENTAL CHECKLIST
(UPD #EIR-2015-115)**

PREPARED FOR:

San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101
Contact: Mayra Medel
(619) 686-6283

PREPARED BY:

BRG Consulting, Inc.
304 Ivy Street
San Diego, CA 92101
Contact: Kathie Washington
(619) 298-7127

August 2015



BRG Consulting, Inc., August 2015
San Diego Bay and Imperial Beach Oceanfront
Fireworks Display Events Project
Initial Study/Environmental Checklist
Prepared for San Diego Unified Port District, San Diego, CA

Initial Study/Environmental Checklist

- 1. Project Title:** San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
- 2. Lead Agency Name and Address:** San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101
- 3. Contact Person and Phone Number:** Mayra Medel
(619) 686-6283
- 4. Project Location:** San Diego Bay and the Imperial Beach Oceanfront
- 5. Project Sponsor's Name and Address:** San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101
- 6. Port Master Plan Designations:** Partially located within Planning District 3, Centre City Embarcadero, and Planning District 10, Imperial Beach Oceanfront, of the certified Port Master Plan. Port Master Plan land and water use designations are as follows: Planning District 3: Commercial Recreation, Park/Plaza, and Specialized Berthing and Planning District 10: Commercial Recreation, Public Fishing Pier, and Vista Area. Project is also partially located outside the boundaries of the Port Master Plan.
- 7. Zoning:** Not Applicable

8. Description of Project:

The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. Fireworks display events include the Big Bay Boom and other smaller events operated by the San Diego Unified Port District's (hereinafter referred to as the "District") tenants. Typically, fireworks associated with these display events are detonated from piers, flight decks, and/or barges located adjacent to and in the waters of San Diego Bay, as well as the Imperial Beach Oceanfront. Spectators for each of the events typically gather in public parks and public areas surrounding the event locations, utilizing the surrounding roadway network and public parking facilities.

Based on preliminary data and information collection efforts, currently approximately 50 fireworks display events take place or are allowed to take place in and around San Diego Bay and the Pacific Ocean near Imperial Beach annually, as indicated in Table 1 below. The proposed project assumes an annual growth rate of approximately 2% in the number of fireworks display events to occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach.

Table 1. Existing and Authorized Fireworks Display Events			
Time of Year	Approximate Number of Fireworks Display Events	Location(s) of Fireworks Display Events	Approximate Duration of Each Fireworks Display Event
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April – June	9	North Embarcadero and South Embarcadero	5 – 10 minutes
July – September	28	North Embarcadero, South Embarcadero, Chula Vista, Imperial Beach Oceanfront, and Glorietta Bay	5 – 20 minutes
October – November	6	North Embarcadero and Chula Vista	5 – 10 minutes

9. Surrounding Land Uses and Setting:

The proposed project is located in the San Diego Bay and the Imperial Beach Oceanfront. Surrounding land uses include a variety of Industrial, Commercial, Public Recreation, Conservation, Public Facilities, and Military uses located within the jurisdiction of the District and the cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach.

10. Other Public Agencies Whose Approval May Be Required:

U.S. Army Corps of Engineers
 U.S. Fish and Wildlife Service
 California Coastal Commission
 California Department of Fish and Wildlife
 California State Lands Commission
 San Diego Regional Water Quality Control Board
 City of Chula Vista Fire Department
 City of Coronado Fire Department
 City of Imperial Beach Fire Department
 City of National City Fire Department
 City of San Diego Fire Department

Environmental Factors Potentially Affected

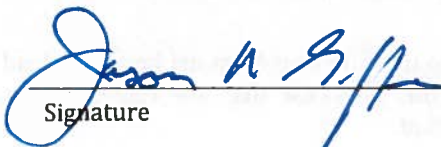
The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural and Forestry | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology and Soils |
| <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input checked="" type="checkbox"/> Hydrology and Water Quality |
| <input checked="" type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise |
| <input type="checkbox"/> Population and Housing | <input checked="" type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Transportation/Traffic | <input checked="" type="checkbox"/> Utilities, Service Systems, and Energy | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Determination

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.



 Signature

8/6/2015

 Date

JASON H. GIFFEN

 Printed Name

 For

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from a “Potentially Significant Impact” to a “Less-than-Significant Impact”. The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, “Earlier Analyses”, may be cross-referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where earlier analyses are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. The significance criteria or threshold, if any, used to evaluate each question; and
 - b. The mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

I. Aesthetics	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Have a substantial adverse effect on a scenic vista?

Less-than-Significant Impact: Public displays of fireworks are typically conducted as part of national and community celebrations and other special events and are used for aesthetic and entertainment purposes. Fireworks display events are temporary in nature and only occur periodically in and around San Diego Bay and the Imperial Beach Oceanfront. There are a number of vista areas located around San Diego Bay and the Imperial Beach Oceanfront as designated in the Port Master Plan. These vistas areas are prime viewing areas for fireworks display events that occur in and around San Diego Bay. The proposed project does not include any landside or waterside development or construction; barges and other vessels and equipment used for fireworks display events would be put in place shortly before an event and removed immediately after an event. Therefore, the proposed project would have a less-than-significant effect on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?

No Impact: Barges and other vessels and equipment associated with fireworks display events would be utilized at various locations throughout the San Diego Bay. This equipment would be put in place shortly before an event and removed immediately after an event. The San Diego-Coronado Bay Bridge, a portion of State Route 75 (SR-75), is an officially designated state scenic highway that connects the cities of San Diego and Coronado. Fireworks display events in and around San Diego Bay are temporary in nature and would only occur periodically. Additionally, the proposed project does not include any landside or waterside development or construction which could potentially obstruct existing views to any trees, rock outcroppings, or historic buildings that may be visible from the San Diego-Coronado Bay Bridge. As such, the proposed project would not substantially damage a scenic resource along a scenic highway, and no impacts would occur.

- c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less-than-Significant Impact: The proposed project does not include any landside or waterside development or construction that would alter or substantially degrade the existing visual character or quality of the surrounding area. Barges and other vessels and equipment used for fireworks display events would be put in place shortly before an event and removed immediately after an event. Fireworks display events in and around San Diego Bay and the Pacific Ocean are temporary in nature and would only occur periodically. Furthermore, fireworks display events are used for aesthetic and entertainment purposes. As such, the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, impacts would be less than significant.

- d) Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Potentially Significant Impact: Fireworks are a class of low explosive pyrotechnic devices used for aesthetic or entertainment purposes. Fireworks may be designed to burn with colored flames and sparks, including red, orange, yellow, green, blue, purple, and silver. Upon combustion, fireworks typically employ bright flares and sparkling effects that may also emit limited sound effects. Fireworks display events typically occur at nighttime, as this is when the visual effects from fireworks are most easily visible. The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. As such, the EIR will analyze the proposed project's potential to create new sources of substantial light or glare that could potentially affect nighttime views in the area.

II. Agricultural and Forestry Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact: The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use because there are no agricultural uses mapped or located on the site(s) or in the surrounding area. Therefore, no impact would occur.

- b) Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

No Impact: The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront. The project site(s) and surrounding area are not zoned for agricultural uses and are not under Williamson Act contracts. As such, the proposed project would not conflict with existing zoning for agricultural uses or with a Williamson Act contract. No impact would occur.

- c) Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact: The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront. The project site(s) and surrounding area are not zoned as forest land, timberland, or timberland zoned Timberland Production. As such, the proposed project would not conflict with existing zoning or cause rezoning of forest land, timberland, or timberland zoned Timberland Production. No impact would occur.

- d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact: The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront. The project site(s) and surrounding area are not zoned as forest land. As such, the proposed project would not result in a loss of forest land or conversion of forest land to non-forest use. No impact would occur.

- e) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact: The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront. The project site(s) and surrounding area are not zoned as Farmland or forest land. As such, the proposed project would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

III. Air Quality	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact: In San Diego County, the San Diego Air Pollution Control District (SDAPCD) is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws and policies. Included in the SDAPCD's tasks are the monitoring of air pollution, the preparation and implementation of the San Diego County portion of the State Implementation Plan (SIP), and the promulgation of Rules and Regulations. The SIP includes strategies and tactics to be used to attain and maintain acceptable air quality in the County; this list of strategies is called the Regional Air Quality Strategy (RAQS). The SDAPCD Rules and Regulations include procedures and requirements to control the emission of pollutants and prevent significant adverse impacts. The proposed project has the potential to significantly contribute to the violation of an air quality standard or significantly contribute to an existing or projected air quality violation, primarily related to potential air pollutant emissions following fireworks display events. Therefore, because the proposed project may conflict with an applicable air quality plan, project-generated emissions would be calculated and analyzed in the EIR. In addition, the analysis will also address the proposed project's contribution to a cumulative air quality impact, as further detailed below.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Potentially Significant Impact: The proposed project has the potential to contribute to the violation of an air quality standard or significantly contribute to an existing or projected air quality

violation, primarily related to potential air pollutant emissions following fireworks display events. Therefore, the EIR will analyze the proposed project's air quality impacts.

- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Potentially Significant Impact: The proposed project has the potential to result in a cumulatively considerable net increase in a criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard, primarily related to potential air pollutant emissions following fireworks display events. Therefore, the EIR will analyze potential cumulative air quality impacts.

- d) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact: Sensitive receptors typically include schools (Preschool-12th Grade), hospitals, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The proposed project has the potential to significantly contribute to the violation of an air quality standard or significantly contribute to an existing or projected air quality violation, primarily related to potential air pollutant emissions following fireworks display events. Therefore, the EIR will analyze the proposed project's potential to expose sensitive receptors to substantial pollutant concentrations.

- e) Create objectionable odors affecting a substantial number of people?

Potentially Significant Impact: The proposed project has the potential to generate objectionable odors, primarily related to potential air pollutant emissions following fireworks display events. Therefore, the EIR will analyze the proposed project's potential to create objectionable odors that may affect a substantial number of people.

IV. Biological Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Potentially Significant Impact: The proposed project, which involves conducting fireworks display events over San Diego Bay and the Imperial Beach Oceanfront, has the potential to significantly impact sensitive species directly or indirectly. Therefore, the EIR will analyze the proposed project's potential impacts to protected species and/or their habitat.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Potentially Significant Impact: The San Diego Bay Integrated Natural Resources Management Plan (INRMP) is a long-term strategy document, implemented by both the District and the U.S. Navy, which provides direction and planning guidance for good stewardship of the natural resources in San Diego Bay. Conducting fireworks display events over San Diego Bay and the Imperial Beach Oceanfront may have an adverse effect on the sensitive natural communities identified in the plans and policies listed above or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. The EIR will analyze the proposed project's effect on these sensitive natural communities.

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

Potentially Significant Impact: Fireworks display events over San Diego Bay and the Imperial Beach Oceanfront may have an adverse effect (public trespass) on federally protected waters and wetlands (i.e., San Diego Bay, Tijuana Estuary, Silver Strand) as defined by Section 404 of the Clean Water Act. The EIR will analyze the extent of public trespass in sensitive wetland areas in and around San Diego Bay and the Imperial Beach Oceanfront that may be generated by the fireworks display events.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Potentially Significant Impact: The proposed project involves fireworks display events over San Diego Bay and the Imperial Beach Oceanfront, which may affect wildlife species. Therefore, the proposed project may interfere substantially with the movement of native/migratory fish or wildlife species. The EIR will analyze the proposed project's potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species, interfere with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Potentially Significant Impact: The San Diego Bay INRMP is a long term strategy document, implemented by both the District and the U.S. Navy, which provides direction and planning guidance for good stewardship of the natural resources in San Diego Bay. The proposed project involves fireworks display events over San Diego Bay and the Imperial Beach Oceanfront. There is a potential that the proposed project may conflict with the INRMP. Therefore, the EIR will analyze the proposed project's consistency with the INRMP.

- f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

Potentially Significant Impact: The San Diego Bay INRMP is a long-term strategy document, implemented by both the District and the U.S. Navy, which provides direction and planning guidance for good stewardship of the natural resources within San Diego Bay. The proposed project involves fireworks display events over San Diego Bay and the Imperial Beach Oceanfront. There is a potential that the proposed project may conflict with the INRMP. Therefore, the EIR will analyze the proposed project's consistency with the INRMP.

V. Cultural Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

No Impact: The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any construction or development that would require grading, excavation, or demolition of existing structures. As such, the proposed project would not indirectly or directly affect a historical resource as defined in Section 15064.5 of the CEQA Guidelines that may be located within the project area. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource. No impact would occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No Impact: The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any construction or development that would require grading or excavation that could affect an archaeological resource. Therefore, the proposed project would not cause a substantial adverse change in the significance of an archaeological resource. No impact would occur.

c) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact: The proposed project is located in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any construction or development that would require grading or excavation that could disturb interred human remains. Therefore, the proposed project would not disturb any human remains, including those interred outside of a formal cemetery. No impact would occur.

VI. Geology and Soils	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. There are no earthquake fault zones in the City of

Imperial Beach as mapped by the California Geological Survey (California Geologic Survey, 2015). Although a number of faults traverse through the San Diego Bay, including the Rose Canyon fault, the proposed project does not include any development or construction that would be impacted by a seismic event. Therefore, because the proposed project would not include the construction of any habitable structures, it would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. No impact would occur.

ii) Strong seismic ground shaking?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development or construction, including the construction of any habitable structures. As such, the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. No impact would occur.

iii) Seismic-related ground failure, including liquefaction?

No Impact: The proposed project involves fireworks display in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development or construction, including the construction of any habitable structures. As such, the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. No impact would occur.

iv) Landslides?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development or construction, including the construction of any habitable structures. As such, the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. No impact would occur.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development or construction that would require grading, dredging, or any other earthwork. As such, the proposed project would not result in substantial soil erosion or the loss of topsoil. No impact would occur.

c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development or construction, including the construction of any structures, which would require grading, dredging, or any other earthwork. As such, the proposed project would not be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an

onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. No impact would occur.

- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development or construction, including the construction of any habitable structures. As such, the proposed project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), and would not create substantial risks to life or property. No impact would occur.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction that would require the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction that would require grading, dredging, or any other earthwork. As such, the proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Therefore, no impacts would occur.

VII. Greenhouse Gas Emissions	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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Would the project:

- | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact: The proposed project has the potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment, primarily associated with mobile and operational source activities. Operational activities include the combustion of fossil fuels from the barges and combustion of fireworks from multiple locations within San Diego Bay, as well as the Imperial Beach Oceanfront. Additionally, mobile sources are those associated with transportation to and from each fireworks display event, including spectator and employee mobile trips. Therefore, the EIR will analyze the proposed project's potential direct and indirect greenhouse gas emissions impacts.

- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact: The proposed project has the potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment, primarily associated with mobile and operational source activities. Therefore, the EIR will analyze the proposed project's potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

VIII. Hazards and Hazardous Materials	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Potentially Significant Impact: Fireworks are a class of low explosive pyrotechnic devices used for aesthetic or entertainment purposes. The transportation, use and storage of fireworks in California are required to comply with the laws and regulations as set forth by the California Department of Forestry and Fire Protection Fireworks in California Handbook (CALFIRE, 2011). The EIR will analyze the proposed project’s potential to create a significant hazard to the public or the environment through the routine transport, use and disposal of fireworks and hazardous materials.

- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Potentially Significant Impact: Fireworks are a class of low explosive pyrotechnic devices used for aesthetic or entertainment purposes. The transportation, use and storage of fireworks in California are required to comply with the laws and regulations as set forth by the California Department of Forestry and Fire Protection Fireworks in California Handbook (CALFIRE, 2011). The EIR will analyze the proposed project's potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- c) Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less-than-Significant Impact: Fireworks display events on San Diego Bay and the Imperial Beach Oceanfront would continue to be handled in compliance with all applicable laws and regulations as set forth by the California Department of Forestry and Fire Protection Fireworks in California Handbook (CALFIRE, 2011). Furthermore, the project site(s) are not located within one-quarter mile of an existing or proposed school. The nearest school to Portwood Pier in Imperial Beach is West View Elementary located at 525 3rd Street, which is approximately 0.65 miles from this project site. Additionally, the nearest school to the San Diego Bay barges is Washington Elementary located at 1789 State Street, which is approximately 1.17 miles from the nearest barge at North Embarcadero. Therefore, the proposed project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impacts would be less than significant.

- d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact: The fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront are temporary in nature. The majority of the fireworks display events will be located on barges on the San Diego Bay and at the end of Portwood Pier in the Imperial Beach Oceanfront, which are not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, no impact would occur.

- e) Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?

Less-than-Significant Impact: The fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront are temporary in nature. Implementation of the proposed project would not result in a safety hazard for people residing or working in the project area. Although various San Diego Bay fireworks display events are located within two (2) miles of San Diego International Airport (Lindbergh Field), U.S. Coast Guard Air Station, and Naval Air Station (NAS) North Island, the fireworks display events would continue to be handled in compliance with all applicable laws and regulations. Based on a correspondence with Ed Gowens, Airport Land Use Commission, San Diego County Regional Airport Authority, the fireworks are considered a temporary event and are considered exempt by the Airport Land Use Commission (Gowens, 2015). In addition, based on a correspondence with Mark Griffin, Federal Aviation Administration (FAA), a notification to the FAA is

required prior to any fireworks display so that local airports can be notified when they will occur; however, a no hazard determination is not issued nor required for fireworks displays (Griffin, 2015). Therefore, impacts would be less than significant.

- f) Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?

No Impact: The fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront are temporary in nature. Implementation of the proposed project would not result in a safety hazard for people residing or working in the project area because the project site(s) are not within the vicinity of a private airstrip. All airports/airstrips within ten miles of the project site(s) are public. Therefore, no impact would occur.

- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Potentially Significant Impact: The proposed project would be required to comply with applicable requirements set forth by the Harbor Police Department, County of San Diego Office of Emergency Services (OES) Operational Area Emergency Plan and the police and fire departments in San Diego, National City, Chula Vista, and Coronado. OES coordinates emergency response at the local level in the event of a disaster, including fires. Although, the proposed project does not include any changes to the landside circulation system that would potentially affect emergency access, fireworks display events such as the Big Bay Boom, although a temporary event, have the potential to result in significant traffic impacts which may hinder the ability for emergency vehicles to respond to an emergency situation. Therefore, the EIR will analyze the potential for the proposed project to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact: According to the California Department of Forestry and Fire Protection (CAL FIRE), the proposed project is not within a High Fire Risk Area (Fire Hazard Severity Zone Map, CAL FIRE 2007). Furthermore, the proposed project area is neither adjacent to nor intermixed with wildlands. It is surrounded by commercial, recreational, and marine-related uses. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. No impacts would occur.

IX. Hydrology and Water Quality	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j. Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Violate any water quality standards or waste discharge requirements?

Potentially Significant Impact: The proposed project involves fireworks display events over the San Diego Bay and the Pacific Ocean in Imperial Beach. Fireworks contain a number of chemical constituents, which serve the purpose of fuels, oxidizers, binding agents, coloration effects and sound effects. These chemical constituents burn at high temperatures when the fireworks are detonated, which promotes incineration. The chemical constituents within the fireworks are scattered by the burst charge, which separates them from the fireworks casing and internal shell components. A fireworks combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris including paper, cardboard, wires and fuses. As such, there is the potential that the proposed project could potentially degrade water quality by introducing pollutants into the San Diego Bay and Pacific Ocean and degrade habitat quality for biological resources within each of these water bodies. Therefore, the EIR will analyze the proposed project's potential to violate water quality standards or waste discharge requirements.

- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction that would rely on the use of groundwater supplies and does not propose the use of any groundwater. Furthermore, the proposed project would not interfere substantially with groundwater recharge as no new impervious surfaces would be constructed or developed. As such, the proposed project would not deplete groundwater supplies or interfere with groundwater recharge that would result in a net deficit in aquifer volume or a lowering of the local groundwater table level. No impacts would occur.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction that could potentially alter the existing drainage pattern of the project site(s). As such, the proposed project would not result in substantial erosion or siltation onsite or offsite associated with the alteration of existing drainage patterns. Therefore, no impacts would occur.

- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction that could potentially alter the existing drainage pattern of the project site(s). As such, the proposed project would not increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite associated with the alteration of existing drainage patterns. Therefore, no impacts would occur.

- e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Potentially Significant Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction of impervious surfaces which would generate stormwater runoff that would flow into existing or planned stormwater drainage systems. However, fireworks are a potential source of pollutants that may flow into a stormwater drainage system in the form of runoff. Therefore, the potential for polluted runoff as a result of the proposed project will be analyzed in the EIR.

- f) Otherwise substantially degrade water quality?

Potentially Significant Impact: See response to Section IX. a) above. Fireworks combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris including paper, cardboard, wires and fuses. As such, there is the potential that proposed project could potentially degrade water quality of the San Diego Bay and Pacific Ocean. Therefore, the EIR will analyze the potential for the proposed project to substantially degrade water quality.

- g) Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction of homes or other habitable structures. As such, the proposed project would not place housing within a 100-year flood hazard area as delineated on any flood hazard maps, including a federal Flood Hazard Boundary or Flood Insurance Rate Map. Therefore, no impacts would occur.

- h) Place within a 100-year flood hazard area structures that would impede or redirect floodflows?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction of homes or other structures that would impede or redirect floodflows. Although the San Diego Bay is located in Zones AE, A, B, X, and D of the Federal Emergency Management Agency Flood Insurance Rate Maps, which is a special flood hazard area inundated by a 100-year flood, the barges and other vessels and equipment utilized for fireworks display events are temporary and would be removed following the completion of such events. As such, the proposed project would not place any permanent structures within a 100-year flood hazard area that would potentially impede or redirect floodflows. Therefore, no impacts would occur.

- i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction of homes or other structures within a 100-year flood hazard area or downstream of a levee or dam. As such, the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding. No impacts would occur.

j) Contribute to inundation by seiche, tsunami, or mudflow?

No Impact: The proposed project is within San Diego Bay and the Imperial Beach Oceanfront, which may be susceptible to tsunami effects such as high surf or waves. Additionally, these low lying areas may be susceptible to inundation by projected sea level rise in the future. However, the proposed project does not include any development or construction of homes or other structures that may be subject to inundation by a tsunami event. Although the project site(s) are located within a tsunami inundation area, the barges and other vessels and equipment utilized for fireworks display events are temporary and would be removed following the completion of such events. Therefore, no impacts would occur.

X. Land Use and Planning	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Physically divide an established community?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development or construction that could potentially divide an established community, such as industrial or commercial buildings or roadways or highways. Therefore, no impacts would occur.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact: The proposed project is located within the jurisdictions of the California State Lands Commission (SLC) and the District and is therefore subject to the policies of the SLC and District's Port Master Plan (Port of San Diego, 2012). The EIR will analyze the potential for the proposed project to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Potentially Significant Impact: The San Diego Bay INRMP is a long-term strategy document, implemented by both the District and the U.S. Navy, which provides direction and planning guidance for good stewardship of the natural resources in the San Diego Bay. The proposed project involves fireworks display events over San Diego Bay and the Imperial Beach Oceanfront. There is a potential that the proposed project may conflict with the INRMP. Therefore, the EIR will analyze the proposed project's consistency with the INRMP.

XI. Mineral Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development, construction, or excavation that could result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Therefore, no impacts would occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any development, construction, or excavation that could result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, no impacts would occur.

XII. Noise	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

Potentially Significant Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The combustion of fireworks generates a loud booming noise that typically can be heard for many miles. Noise levels associated with fireworks shows have the potential to expose persons to or generate noise levels in excess of applicable noise standards for brief periods, and therefore will be analyzed in the EIR.

b) Expose persons to or generate excessive groundborne vibration or groundborne noise levels?

No Impact: Typically, the use of high impact equipment, such as a pile driver or large bulldozer, is a significant source of groundborne vibration or noise during construction. The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any landside development or construction that would require the use of high impact equipment. Explosions associated with fireworks are not considered a potential source of groundborne vibration and noise. Therefore, no impacts would occur.

- c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront; all of these events are temporary in nature. Thus, noise generated by these events would be short in duration and would occur only periodically throughout the year. Furthermore, the proposed project does not include any development or construction of uses that would generate noise on an ongoing basis. As such, the proposed project would not result in a substantial permanent increase in ambient noise levels, and no impacts would occur.

- d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact: In general, fireworks display events are temporary in nature and occur periodically. Operational activities and mobile sources associated with fireworks shows have the potential to result in substantial temporary or period increases in ambient noise levels in the project vicinity. Therefore, these potential impacts will be analyzed in the EIR.

- e) Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?

Less-than-Significant Impact: See VIII.e., above. The proposed project is located within the land use plan area for San Diego International Airport (SDIA) and within two miles of U.S. Coast Guard Air Station and Naval Air Station (NAS) North Island. Based on a correspondence with Ed Gowens, Airport Land Use Commission, San Diego County Regional Airport Authority, the fireworks are considered a temporary event and are considered exempt by the Airport Land Use Commission (Gowens, 2015). In addition, based on a correspondence with Mark Griffin, Federal Aviation Administration (FAA), a notification to the FAA is required prior to any fireworks display so that local airports can be notified when they will occur; however, a no hazard determination is not issued nor required for fireworks displays (Griffin, 2015).

In addition, the proposed project does not include any landside development or construction of noise sensitive land uses. Although people working on barges during fireworks display events located in the vicinity of SDIA may be exposed to excessive noise levels, the exposure would be short in duration and would only occur periodically as events are conducted. Therefore, a less than significant impact is identified for this issue area.

- f) Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?

No Impact: The proposed project is not located in the vicinity of a private airstrip. All airports/airstrips within ten miles of the project site(s) are public. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels, and no impacts would occur.

XIII. Population and Housing	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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Would the project:

a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

No Impact: The proposed project involves the occasional occurrence of fireworks display events and does not include any landside development or construction of any new homes or businesses, nor does it include the extension of any roads or other infrastructure. As such, the proposed project would not induce substantial population growth in the area either directly or indirectly. No impact would occur.

b) Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?

No Impact: The proposed project involves the occasional occurrence of fireworks display events and does not include any landside development or construction. Therefore, the proposed project would not displace a substantial number of existing housing units necessitating the construction of replacement housing elsewhere. No impact would occur.

c) Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?

No Impact: The proposed project involves the occasional occurrence of fireworks display events and does not include any landside development or construction. Therefore, the proposed project would not displace a substantial number of people necessitating the construction of replacement housing elsewhere. No impact would occur.

XIV. Public Services	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

Potentially Significant Impact: Fireworks display events typically draw large numbers of spectators, particularly on major holidays such as the Fourth of July. On the Fourth of July, several fireworks display events occur in and around San Diego Bay, including the Big Bay Boom, as well as other events in the cities of Coronado and Imperial Beach. The proposed project would not result in an increased demand on school facilities, as these events typically cater to local and visiting regional populations and do not facilitate a permanent growth in population requiring the construction of additional schools.

As discussed below in Section XV. Recreation, although the proposed project would increase the use of parks by spectators during the fireworks shows, these events are temporary in nature and typically cater to local and regional populations and do not facilitate a permanent growth in population requiring the construction or expansion of new or physically altered parks. Therefore, impacts to parks would be less than significant.

However, the proposed project has the potential to increase demand on public services and facilities that hold and regulate such events, including fire departments, police departments, Harbor Police, and other public services such as the U.S. Coast Guard. Therefore, potential impacts to these public services and facilities will be analyzed in the EIR.

XV. Recreation	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less-than-Significant Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. There are a number of parks adjacent to the project site(s) that serve as prime viewing areas for fireworks display events in the San Diego Bay and Imperial Beach Oceanfront, including Shelter Island Shoreline Park, Harbor Island Park, Spanish Landing Park, Waterfront Park, Embarcadero Marina Parks North and South, Dunes Park, Portwood Pier Plaza, Coronado Tidelands Park, and numerous other public areas along the bay front. Although the proposed project would increase the use of these parks by spectators during the fireworks shows, these events are temporary in nature and typically cater to local and regional populations and do not facilitate a permanent growth in population requiring the construction or expansion of recreational facilities. As such, due to the infrequent nature of fireworks display events, the use of these parks as viewing areas would be temporary such that substantial physical deterioration of the facility would not occur or be accelerated. Additionally, the District currently maintains the parks and other public areas within their jurisdiction following these events, and would continue to do so with implementation of the proposed project. Therefore, impacts would be less than significant.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact: The proposed project involves the occasional occurrence of fireworks display events and does not include any development or construction, including recreational facilities. As such, the proposed project would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Therefore, no impacts would occur.

XVI. Transportation/Traffic	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Potentially Significant Impact: The EIR will analyze the potential for the proposed project to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- b) Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?

Potentially Significant Impact: The EIR will analyze the potential for the proposed project to conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways.

- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Less-than-Significant Impact: See response to Section VIII. e) above. The fireworks display events associated with the proposed project would be located at a sufficient distance from the San Diego International Airport, U.S. Coast Guard Air Station, and North Island NAS flight paths so as not to interfere with any air traffic patterns. As a result, there would be a less-than-significant impact to air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

- d) Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less-than-Significant Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront. The proposed project does not include any changes to the landside circulation system that could substantially increase hazards because of a design feature or incompatible use. In regards to marine vessel circulation in the San Diego Bay and the Imperial Beach Oceanfront, the U.S. Coast Guard establishes a safety zone around each of the tugboats and barges during the Big Bay Boom fireworks show and other shows within the bay. The safety zone encompasses all navigable waters within whatever distance the Coast Guard determines is appropriate. Additionally, all vessels participating in the event must abide by the Navigation Rules of the U.S. and all applicable federal, state, and local regulations when transitioning outside of the established safety zone. Furthermore, the District Harbor Police provides marine vessel patrols and maritime response within San Diego Bay, its associated waterways, and coastal areas. These vessel patrols are staffed 24 hours a day, in all types of weather, and would be increasingly present at large events like the Big Bay Boom to regulate water safety. As such, the proposed project would not substantially increase hazards because of a design feature or incompatible use, and impacts would be less than significant.

- e) Result in inadequate emergency access?

Potentially Significant Impact: The proposed project does not include any changes to the landside circulation system that would potentially affect emergency access. However, fireworks display events such as the Big Bay Boom, although a temporary event, have the potential to result in significant traffic impacts which may hinder the ability for emergency vehicles to respond to an emergency situation. Therefore, the EIR will analyze the potential for the proposed project to impact emergency access.

- f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Potentially Significant Impact: The EIR will analyze the potential for the proposed project to conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

XVII. Utilities, Service Systems, and Energy	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Result in the wasteful, inefficient, or unnecessary consumption of energy?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact: The proposed project does not include any development or construction that would result in an increase in wastewater generation requiring treatment. As such, the proposed project would not exceed wastewater treatment requirements of the San Diego Regional Water Quality Control Board. No impact would occur.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction that would result in an increase in water use or wastewater generation requiring treatment. As such, the

proposed project would not require the construction of new water or wastewater treatment facilities or expansion of existing facilities. No impacts would occur.

- c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction of impervious surfaces that would result in increased stormwater runoff to existing stormwater drainage facilities. As such, the proposed project would not require the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. No impacts would occur.

- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

Less-than-Significant Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction that would result in a permanent increase in water usage that may potentially affect water supplies. However, fireworks display events typically draw large numbers of spectators, particularly on major holidays such as the Fourth of July. There are a number of public parks adjacent to the project site(s) and other public areas along the bay front that serve as prime viewing areas for the Big Bay Boom, as well as other smaller events throughout the year. Although the proposed project would increase public water use by spectators at these parks during the fireworks shows (i.e., drinking fountains), these events are temporary in nature and typically cater to local and visiting regional populations. As such, these spectators are generally part of the existing local and regional population that would likely be using public water sources elsewhere around San Diego County. Therefore, the proposed project would not require new or expanded entitlements, and impacts to the water supply would be less than significant.

- e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less-than-Significant Impact: The proposed project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront and does not include any development or construction that would result in an increase in wastewater generation requiring treatment from a wastewater treatment provider. However, fireworks display events typically draw large numbers of spectators, particularly on major holidays such as the Fourth of July. There are a number of public parks adjacent to the project site(s) and other public areas along the bay front that serve as prime viewing areas for the Big Bay Boom, as well as other smaller events throughout the year. Although the proposed project would increase public restroom use by spectators at these parks during the fireworks shows (i.e., drinking fountains), these events are temporary in nature and typically cater to local and visiting regional populations. As such, these spectators are generally part of the existing local and regional population and are utilizing the restroom facilities at these public parks while viewing a temporary event. The use of public restroom facilities should be accounted for by the existing wastewater treatment provider. Therefore, impacts would be less than significant.

- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less-than-Significant Impact: The proposed project would generate solid waste from the combustion of fireworks that would need to be disposed of following fireworks display events. However, due to the infrequent nature of these events, the solid waste generated from the combustion of fireworks would be minimal. Additionally, solid waste would be generated by spectators utilizing the parks and other public areas along the bay front as viewing areas for the fireworks display events. However, the District currently maintains the parks and other public areas within their jurisdiction, and would continue to do so with implementation of the proposed project. Solid waste generated by the proposed project would be taken to a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Therefore, impacts would be less than significant.

- g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less-than-Significant Impact: The proposed project would generate solid waste from the combustion of fireworks that would need to be disposed of following fireworks display events. Additionally, solid waste would be generated by spectators utilizing the parks and other public areas along the bay front as viewing areas for the fireworks display events. The District would continue to maintain the parks and other public areas within their jurisdiction following these events. Solid waste generated by the proposed project would continue to be taken to a landfill in compliance with federal, state, and local statutes and regulations related to solid waste. Therefore, impacts would be less than significant.

- h) Result in the wasteful, inefficient, or unnecessary consumption of energy?

Potentially Significant Impact: The proposed project would require the use of fossil fuels to transport fireworks to the Portwood Pier at Imperial Beach and various sites around San Diego Bay where the fireworks display events are loaded onto barges. The fireworks themselves contain gunpowder as a charge/motor and use either an open flame or an electrical contact setup, in the case of large displays, to launch. Although the fireworks display events are relatively infrequent and temporary events, there is some consumption of energy for a fireworks display that will be analyzed in the EIR.

XVIII. Mandatory Findings of Significance	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impact: As discussed in Section IV Biological Resources above, the proposed project, which includes conducting fireworks display events over San Diego Bay and the Imperial Beach Oceanfront, has the potential to significantly impact marine wildlife, wetlands and sensitive species directly, or indirectly. The proposed project would occur within San Diego Bay and the Imperial Beach Oceanfront and does not include any construction or development that would require grading, excavation, or demolition excavation that could affect an archaeological resource or existing structure. However, the proposed project has the potential to degrade the quality of the environment and may threaten a plant or animal community or impact a protected species. Therefore, any potential significant adverse effects to fish and wildlife habitat will be evaluated in the EIR.

b) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Potentially Significant Impact: Per the instructions and criteria for evaluating environmental impacts in this Initial Study (pp. 2 and 3), the potential for adverse cumulative effects were considered in the response to each question in Sections I through XVII of this form. In addition to

project specific impacts, this evaluation considered the proposed projects potential for incremental effects that are cumulatively considerable. As a result of this evaluation, the proposed project may result in cumulatively considerable effects related to air quality, biological resources, greenhouse gas emissions, water quality, noise, and transportation/traffic, among other effects. A list of past, present, and future projects will be provided and a detailed analysis will be included in the EIR to address the above potentially significant cumulative impacts.

- c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact: As discussed in Section III Air Quality above, the proposed project has the potential to expose sensitive receptors to substantial pollutant concentrations associated with the combustion of fireworks. The EIR will evaluate the proposed project's potential to result in adverse health impacts to human beings residing or working within the project vicinity, and a discussion of potential impacts will be included in the EIR.

XIX. Earlier Analysis

Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a discussion should identify the following on attached sheets.

- a. **Earlier analyses used.** Identify earlier analyses and state where they are available for review.

Not Applicable: The proposed project requires the preparation of a new EIR to assess potential environmental impacts, as no previous environmental analysis has been conducted.

- b. **Impact adequately addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in the earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.

- c. **Mitigation measures.** For effects that are “potentially significant unless mitigated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

Authority: Public Resources Code Sections 21083 and 21083.05.

Reference: Section 65088.4, Government Code; Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino* (1988), 202 Cal. App. 3d 296; *Leonoff v. Monterey Board of Supervisors* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

REFERENCES:

- California Department of Forestry and Fire Protection (CALFIRE), 2011
Laws and Regulations for Transportation, Use and Storage of Fireworks in California Handbook, California Department of Forestry and Fire Protection (CALFIRE), 2011 Edition.
- California Geological Survey, 2015
<http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm>
- California Geological Survey, 2003
State of California Earthquake Fault Zones, Point Loma Quadrangle, California Geological Survey, May 1, 2003.
- California Geological Survey, 2009
Tsunami Inundation Map for Emergency Planning, Point Loma Quadrangle, California Geological Survey, June 1, 2009.
- Federal Emergency Management Agency, 2015
Flood Insurance Rate Map GIS Data, 2015.
- Gowens, 2015
Phone conversation with Ed Gowens (Airport Land Use Commission, San Diego County Regional Airport Authority) and K. Washington (BRG Consulting, Inc.) June 9, 2015.
- Griffin, 2015
Phone conversation with Mark Griffin (Support Specialist, Federal Aviation Administration) and K. Washington (BRG Consulting, Inc.) June 30, 2015.
- RWQCB, 2011
General National Pollutant Discharge Elimination System Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States in the San Diego Region from the Public Display of Fireworks, San Diego RWQCB, May 11, 2011.
- San Diego County Regional Airport Authority, 2014
San Diego International Airport – Airport Land Use Compatibility Plan, February 2014.
- SDUPD, 2012
Port Master Plan, San Diego Unified Port District, October 2012.
- SDUPD, 2013
San Diego Bay Integrated Natural Resources Management Plan, San Diego Unified Port District, September 2013.

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Appendix B
Comment Letters on the Notice of Preparation



Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Ken Alex
Director

Notice of Preparation

August 7, 2015

ELIJM 13 AUG '15AM11:33

To: Reviewing Agencies

Re: San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
SCH# 2015081013

Attached for your review and comment is the Notice of Preparation (NOP) for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Mayra Medel
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

**Document Details Report
State Clearinghouse Data Base**

SCH# 2015081013
Project Title San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project
Lead Agency San Diego Unified Port District

Type NOP Notice of Preparation
Description The project involves fireworks display events (events) in and around San Diego (SD) Bay and the Imperial Beach (IB) Oceanfront for a period of ten years. Events include the Big Bay Boom and other smaller events operated by the District's tenants. Typically, fireworks associated with these events are detonated from piers, flight decks, and/or barges located adjacent to and in the waters of SD Bay and the IB Oceanfront. Spectators for each of the events typically gather in public parks and public areas surrounding the event locations, utilizing the surrounding roadway network and public parking facilities. Approx. 50 events take place or are allowed to take place in and around SD Bay and the Pacific Ocean near IB annually. The project assumes an annual growth rate of approximately 2% in the number of events to occur in and around SD Bay and the Pacific Ocean near IB.

Lead Agency Contact

Name Mayra Medel
Agency San Diego Unified Port District
Phone 619 686 6598 **Fax**
email
Address 3165 Pacific Highway
City San Diego **State** CA **Zip** 92101

Project Location

County San Diego
City San Diego, Chula Vista, Coronado, Imperial Beach
Region
Cross Streets Shelter Island Dr., N. Harbor Dr., Harbor Dr., Glorietta Blvd, Seacost Dr.
Lat / Long 32° 43' 26" N / 117° 10' 26" W
Parcel No. 017-032, 061-005
Township **Range** **Section** **Base**

Proximity to:

Highways I-5, SR 75, 54
Airports SD Int'l
Railways BNSF, MTS
Waterways San Diego Bay, Pacific Ocean, Sweetwater River
Schools Cabrillo, Perkins, MarVista
Land Use Commercial Recreation, Park/Plaza, Specialized Berthing, Public Fishing Pier, and Vista Area.

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; Department of Boating and Waterways; Coachella Valley Mountains Conservancy; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 5; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 11; Air Resources Board; Regional Water Quality Control Board, Region 9; San Diego River Conservancy

Date Received 08/07/2015 **Start of Review** 08/07/2015 **End of Review** 09/08/2015

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

2015081015

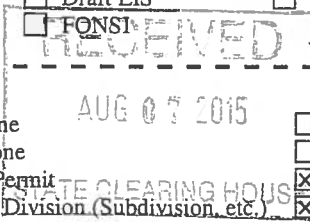
Project Title: San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project

Lead Agency: San Diego Unified Port District Contact Person: Mayra Medel, ELUM Dept.
Mailing Address: 3165 Pacific Highway Phone: (619) 686-6598
City: San Diego Zip: 92101 County: San Diego

Project Location: County: San Diego City/Nearest Community: SD, Chula Vista, Coronado, Imp. Beach
Cross Streets: Shelter Island Dr., N. Harbor Dr., Harbor Dr., Glorietta Blvd., Seacost Dr. Zip Code: 92101
Longitude/Latitude (degrees, minutes and seconds): 32 ° 43 ' 26 " N / 117 ° 10 ' 26 " W Total Acres: ~1,300
Assessor's Parcel No.: 017-032, 061-005 Section: -- Twp.: -- Range: -- Base: --
Within 2 Miles: State Hwy #: Interstate 5, SR-75, SR-54 Waterways: San Diego Bay, Pacific Ocean, Sweetwater River
Airports: SD International Airport Railways: BNSF, MTS Schools: Cabrillo, Perkins, Mar Vista

Document Type:

CEQA: [X] NOP [] Draft EIR NEPA: [] NOI Other: [] Joint Document
[] Early Cons [] Supplement/Subsequent EIR [] EA [] Final Document
[] Neg Dec (Prior SCH No.) [] Draft EIS [] Other:
[] Mit Neg Dec Other:



Local Action Type:

[] General Plan Update [] Specific Plan [] Rezone [] Annexation
[] General Plan Amendment [] Master Plan [] Prezone [] Redevelopment
[] General Plan Element [] Planned Unit Development [] Use Permit [] Coastal Permit
[] Community Plan [] Site Plan [] Land Division (Subdivision, etc.) [] Other: Events Permit

Development Type:

[] Residential: Units _____ Acres _____
[] Office: Sq.ft. _____ Acres _____ Employees _____
[] Commercial: Sq.ft. _____ Acres _____ Employees _____
[] Industrial: Sq.ft. _____ Acres _____ Employees _____
[] Educational: _____
[] Recreational: _____
[] Water Facilities: Type _____ MGD _____
[] Transportation: Type _____
[] Mining: Mineral _____
[] Power: Type _____ MW _____
[] Waste Treatment: Type _____ MGD _____
[] Hazardous Waste: Type _____
[X] Other: Special Events - Firework Displays

Project Issues Discussed in Document:

[X] Aesthetic/Visual [] Fiscal [X] Recreation/Parks [X] Vegetation
[] Agricultural Land [X] Flood Plain/Flooding [X] Schools/Universities [X] Water Quality
[X] Air Quality [X] Forest Land/Fire Hazard [X] Septic Systems [X] Water Supply/Groundwater
[X] Archeological/Historical [X] Geologic/Seismic [X] Sewer Capacity [X] Wetland/Riparian
[X] Biological Resources [X] Minerals [X] Soil Erosion/Compaction/Grading [X] Growth Inducement
[X] Coastal Zone [X] Noise [X] Solid Waste [X] Land Use
[X] Drainage/Absorption [X] Population/Housing Balance [X] Toxic/Hazardous [X] Cumulative Effects
[] Economic/Jobs [X] Public Services/Facilities [X] Traffic/Circulation [X] Other: Climate Change

Present Land Use/Zoning/General Plan Designation:

Commercial Recreation, Park/Plaza, Specialized Berthing, Public Fishing Pier, and Vista Area. Partially outside Port Master Plan.

Project Description: (please use a separate page if necessary)

The project involves fireworks display events (events) in and around San Diego (SD) Bay and the Imperial Beach (IB) Oceanfront for a period of ten years. Events include the Big Bay Boom and other smaller events operated by the District's tenants. Typically, fireworks associated with these events are detonated from piers, flight decks, and/or barges located adjacent to and in the waters of SD Bay and the IB Oceanfront. Spectators for each of the events typically gather in public parks and public areas surrounding the event locations, utilizing the surrounding roadway network and public parking facilities. Approx. 50 events take place or are allowed to take place in and around SD Bay and the Pacific Ocean near IB annually. The project assumes an annual growth rate of approximately 2% in the number of events to occur in and around SD Bay and the Pacific Ocean near IB.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

NOP Distribution List

JB

County: San Diego

SCH# 2015081013

Resources Agency

- Resources Agency
Nadell Gayou
- Dept. of Boating & Waterways
Denise Peterson
- California Coastal Commission
Elizabeth A. Fuchs
- Colorado River Board
Lisa Johansen
- Dept. of Conservation
Elizabeth Carpenter
- California Energy Commission
Eric Knight
- Cal Fire
Dan Foster
- Central Valley Flood Protection Board
James Herota
- Office of Historic Preservation
Ron Parsons

- Dept of Parks & Recreation
Environmental Stewardship Section
- California Department of Resources, Recycling & Recovery
Sue O'Leary
- S.F. Bay Conservation & Dev't. Comm.
Steve McAdam
- Dept. of Water Resources
Resources Agency
Nadell Gayou

Fish and Game

- Depart. of Fish & Wildlife
Scott Flint
Environmental Services Division
- Fish & Wildlife Region 1
Curt Babcock

- Fish & Wildlife Region 1E
Laurie Harnsberger
- Fish & Wildlife Region 2
Jeff Drongesen
- Fish & Wildlife Region 3
Charles Armor
- Fish & Wildlife Region 4
Julie Vance
- Fish & Wildlife Region 5
Leslie Newton-Reed
Habitat Conservation Program
- Fish & Wildlife Region 6
Tiffany Ellis
Habitat Conservation Program
- Fish & Wildlife Region 6 I/M
Heidi Calvert
Inyo/Mono, Habitat Conservation Program
- Dept. of Fish & Wildlife M
George Isaac
Marine Region

Other Departments

- Food & Agriculture
Sandra Schubert
Dept. of Food and Agriculture
- Depart. of General Services
Public School Construction
- Dept. of General Services
Anna Garbeff
Environmental Services Section
- Delta Stewardship Council
Kevan Samsam
- Housing & Comm. Dev.
CEQA Coordinator
Housing Policy Division

Independent Commissions, Boards

- Delta Protection Commission
Michael Machado

- OES (Office of Emergency Services)
Marcia Scully
- Native American Heritage Comm.
Debbie Treadway
- Public Utilities Commission
Supervisor
- Santa Monica Bay Restoration
Guangyu Wang
- State Lands Commission
Jennifer Deleong
- Tahoe Regional Planning Agency (TRPA)
Cherry Jacques

Cal State Transportation Agency CalSTA

- Caltrans - Division of Aeronautics
Philip Crimmins
- Caltrans - Planning
HQ LD-IGR
Terri Pencovic
- California Highway Patrol
Suzann Ikeuchi
Office of Special Projects

Dept. of Transportation

- Caltrans, District 1
Rex Jackman
- Caltrans, District 2
Marcelino Gonzalez
- Caltrans, District 3
Eric Federicks - South
Susan Zanchi - North
- Caltrans, District 4
Patricia Maurice
- Caltrans, District 5
Larry Newland
- Caltrans, District 6
Michael Navarro
- Caltrans, District 7
Dianna Watson

- Caltrans, District 8
Mark Roberts
- Caltrans, District 9
Gayle Rosander
- Caltrans, District 10
Tom Dumas
- Caltrans, District 11
Jacob Armstrong
- Caltrans, District 12
Maureen El Harake

Cal EPA

Air Resources Board

- All Other Projects
Cathi Slaminski
- Transportation Projects
Nesamani Kalandiyur
- Industrial/Energy Projects
Mike Tollstrup
- State Water Resources Control Board
Regional Programs Unit
Division of Financial Assistance
- State Water Resources Control Board
Karen Larsen
Division of Drinking Water
- State Water Resources Control Board
Student Intern, 401 Water Quality Certification Unit
Division of Water Quality
- State Water Resources Control Board
Phil Crader
Division of Water Rights
- Dept. of Toxic Substances Control
CEQA Tracking Center
- Department of Pesticide Regulation
CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- RWQCB 1
Cathleen Hudson
North Coast Region (1)
- RWQCB 2
Environmental Document Coordinator
San Francisco Bay Region (2)
- RWQCB 3
Central Coast Region (3)
- RWQCB 4
Teresa Rodgers
Los Angeles Region (4)
- RWQCB 5S
Central Valley Region (5)
- RWQCB 5F
Central Valley Region (5)
Fresno Branch Office
- RWQCB 5R
Central Valley Region (5)
Redding Branch Office
- RWQCB 6
Lahontan Region (6)
- RWQCB 6V
Lahontan Region (6)
Victorville Branch Office
- RWQCB 7
Colorado River Basin Region (7)
- RWQCB 8
Santa Ana Region (8)
- RWQCB 9
San Diego Region (9)

Other _____

San Diego River
Conservancy

DEPARTMENT OF TRANSPORTATION

DISTRICT 11, DIVISION OF PLANNING

4050 TAYLOR ST, M.S. 240

SAN DIEGO, CA 92110

PHONE (619) 688-6960

FAX (619) 688-4299

TTY 711

www.dot.ca.gov



*Serious drought.
Help save water!*

ELLUM 19 AUG '15AM11:45

August 14, 2015

11-SD-5/54/75
PM VAR
SCH# 2015081013

Ms. Mayra Medel
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

Dear Ms. Mayra Medel:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project. Caltrans received a copy of the proposed San Diego Bay and Imperial Beach Oceanfront Fireworks Display Event Project Notice of Preparation Draft Environmental Impact Report (DEIR) located near Interstate 5 (I-5), State Route 54 (SR-54) and State Route 75 (SR-75).

Any special events that may impact traffic on state facilities should be reviewed by Caltrans, and an encroachment permit should be issued for any traffic control or management within Caltrans Right of Way.

If you have any questions, please contact Kimberly Dodson, of the Caltrans Development Review Branch, at (619) 688-2510 or by e-mail sent to kimberly.dodson@dot.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Armstrong".

JACOB M. ARMSTRONG, Chief
Development Review Branch

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052



FEMA

August 24, 2015

Project Manager
San Diego Unified Port District
ELUM (District Environmental & Land Use Management Department)
3165 Pacific Highway
San Diego, California 92101

Dear Project Manager:

This is in response to your request for comments regarding the Notice of Preparation, Draft Environmental Impact Report and Notice of Public Scoping Meeting Open House for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project.

Please review the current effective countywide Flood Insurance Rate Maps (FIRMs) for the County of San Diego (Community Number 060284) and City of San Diego (Community Number 060295), May 16, 2012. Please note that the City of San Diego, San Diego County, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.
- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any *development* must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

Project Manager
Page 2
August 24, 2015

- All buildings constructed within a coastal high hazard area, (any of the “V” Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA’s Flood Map Revision Application Packages, please refer to the FEMA website at <http://www.fema.gov/business/nfip/forms.shtm>.

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community’s floodplain manager for more information on local floodplain management building requirements. The San Diego floodplain manager can be reached by calling Jamal Batta, CFM, P.E., at (619) 553-7482. The San Diego County floodplain manager can be reached by calling Sara Agahi, Flood Control District Manager, at (858) 694-2665.

If you have any questions or concerns, please do not hesitate to call Mark Delorey of the Mitigation staff at (510) 627-7057.

Sincerely,

Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

Project Manager
Page 3
August 24, 2015

cc:

Jamal Batta, CFM, P.E., City of San Diego

Sara Agahi, Flood Control District Manager, San Diego County

Garret Tam Sing/Salomon Miranda, State of California, Department of Water Resources,
Southern Region Office

Mark Delorey, NFIP Planner, DHS/FEMA Region IX

Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



September 8, 2015

ELUM 8 SEP '15AM9:35

Ms. Mayra Medel, Senior Redevelopment Planner
San Diego Unified Port District
Environmental and Land Use Management Department
3165 Pacific Highway
San Diego, California 92101
mmedel@portofsandiego.org

Subject: Comments on the Notice of Preparation of a Draft Environmental Impact Report for the San Diego and Imperial Beach Oceanfront Fireworks Display Events Project (SCH No. 2015081013; UPD#EIR-2015-115)

Dear Ms. Medel:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the San Diego and Imperial Beach Oceanfront Fireworks Display Events Project (Project), dated August 6, 2015. The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act [CEQA] Guidelines §15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code § 2050 et seq.) and Fish and Game Code section 1600 et seq. The Department also administers the Natural Community Conservation Planning program.

The proposed Project involves fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront (Pacific Ocean). The fireworks display events are conducted by San Diego Unified Port District's (District) tenants and are detonated from barges, piers, and/or flight decks. While the fireworks displays occur year-round, the majority take place from July to September and last from 5 to 20 minutes; fireworks shows during other parts of the year last from 5 to 10 minutes. Existing events have taken place in Chula Vista, South Embarcadero, North Embarcadero, Glorietta Bay, and the Imperial Beach Oceanfront. Currently, the District estimates that there are approximately 50 fireworks display events a year. The proposed Project assumes a 2 percent annual increase in the number of fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront.

The Department offers the following comments and recommendations to assist the District in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources.

1. The Department is concerned with the potential direct and indirect effects of fireworks displays and the associated human disturbances on sensitive species that occur in and around the Project area. The wildlife potentially affected includes marine mammals, sea turtles, seabirds, shorebirds, and passerines. Past studies conducted on the effects of fireworks displays on nesting seabirds revealed some nest abandonment likely

resulted from fireworks disturbance (Weigand and McChesney 2008). The National Marine Fisheries Service (NMFS 2006) issued an environmental assessment of the impacts of fireworks displays on marine mammals and avian species occurring in Monterey Bay National Marine Sanctuary citing similar concerns on the potential for physical impairment or negatively altering the behavioral response of marine mammals and other marine wildlife. In general, these documents (and others) indicate that distance from the fireworks display is an important factor in reducing impacts to sensitive wildlife species. The Department recommends that the DEIR summarize results from past studies that have monitored wildlife responses to fireworks displays and the recommendations offered to avoid, minimize, or mitigate the effects to these species. A comprehensive mitigation strategy should include developing a monitoring protocol for those sites in which it is determined to be most likely affected by fireworks displays. The NMFS document provides a useful resource on the types of effects analyses that should be incorporated into the DEIR.

2. The DEIR should include the following information: 1) a figure depicting the locations of all sensitive resource use areas within and in the immediate vicinity of the Project site (including, but not limited to, Tijuana River National Estuarine Research Reserve, San Diego Bay National Wildlife Refuge, Chula Vista Wildlife Reserve, South Bay Salt Works, D Street Fill, the bay-side of the Silver Strand at Delta Beach, the ocean side of Silver Strand from the northern boundary of the Naval Base San Diego extending south, and the San Diego Regional Airport); 2) the potential detonation sites that have been used previously and are anticipated to be used in the future; 3) an inventory and maps of rare, threatened, endangered, and other sensitive species that occur within and/or adjacent to San Diego Bay and Imperial Beach, including all those which meet the CEQA definition (see CEQA Guidelines, § 15380); the seasonal variations in use of the Project area by the sensitive wildlife species; and 4) the regional setting, which is critical to an assessment of the environmental impacts, with special emphasis placed on resources that are rare or unique to the region (CEQA Guidelines, section 15125(c)).
3. According to NMFS (2006), marine mammals can be impacted by fireworks displays in three ways: light, sound, and debris. The primary causes of disturbance are light flashes and sound effects from exploding fireworks. Direct impacts include, but are not limited to, immediate physical and physiological impacts such as abrupt changes in behavior, flight response, diving, evading, flushing, cessation of feeding, and physical impairment or mortality. Birds likely exhibit these same or similar physical and physiological responses. The impact analysis should define the area where sound, light, and debris effects have a direct impact on wildlife and associated habitats. The factors contributing to the level of impact include the duration of sound level bursts, pressure waves produced, and light flashes from exploding fireworks. The analysis should also define the distance that impacts can extend beyond the center of the detonation point.
4. We recommend that the detonation structures be located as far from sensitive resource use areas as possible, in order to reduce the effects of noise, light, fall-out, and/or human intrusion (as fireworks display events may draw spectators on foot and/or in watercraft to sensitive habitat areas) to sensitive wildlife species. The District should also consider altered habitat conditions when determining future locations of the fireworks detonation sites. For example, beach replenishment projects may expand areas where sensitive avian species choose to nest.

5. Pursuant to section 15130 et seq. of the CEQA Guidelines, an EIR shall discuss cumulative impacts of the project. For example, if it were determined that a single night of fireworks displays may not have a measurable impact on an avian nesting colony, it should still be analyzed whether repeated nightly exposure may have a significant impact.
6. Fireworks displays may attract spectators in motorized watercraft to sensitive marine habitat such as eelgrass (*Zostera marina*) meadows. Eelgrass meadows are recognized as an important ecological community in San Diego Bay because of their multiple biological and physical values. Boat propellers and anchors have the potential to uproot eelgrass plants, dislodge sediment, and release pollutants into the area. To avoid impacts to eelgrass meadows the Department recommends the District institute patrols or other methodologies to prohibit spectator motorized watercraft from entering these sensitive areas.
7. One of the purposes of CEQA is to "prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible" [CEQA Guideline, §15002 (a)(3)]. Because there are sensitive species and habitats that could potentially be negatively affected by the proposed Project, the CEQA alternatives analysis is extremely important. The Department is interested in the DEIR describing a "range of reasonable alternatives to the project, or to the locations of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives," as required by Section 15126.6(a) of the CEQA Guidelines. The alternatives should include an "alternative [that] would impede to some degree the attainment of the project objectives, or would be more costly" [§15126.6(b) of the CEQA Guidelines]. "The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making" [§15126.6(f) of the CEQA Guidelines].

The NOP states that the District anticipates an annual 2 percent increase in the number of fireworks display events. The DEIR should provide a thorough analysis of the need for an increase in the number of events. We recommend consideration of an alternative that would set a limit on the number of events that can occur (e.g., no more than 50 events in any given year), and/or reduces the number of events below what is currently allowed.

8. The DEIR should include mitigation measures for all adverse project-related impacts to sensitive animals and habitats. Mitigation measures should emphasize avoidance and reduction of project impacts.

Ms. Mayra Medel, Senior Redevelopment Planner
San Diego Unified Port District
September 8, 2015
Page 4 of 4

We appreciate the opportunity to comment on the referenced NOP. Questions regarding this letter and further coordination on these issues should be directed to Marilyn Fluharty at 858-467-4231 or Marilyn.fluharty@wildlife.ca.gov.

Sincerely,



Gail K. Sevens
Environmental Program Manager
South Coast Region

cc: Scott Morgan, State Clearinghouse
Sandy Vissman, U.S. Fish and Wildlife Service, Carlsbad Office

Literature Cited:

National Marine Fisheries Service (NMFS). 2006. Environmental Assessment of the Issuance of a Small Take Regulations and Letters of Authorization and the Issuance of National Marine Sanctuary Authorizations for Coastal Commercial Fireworks Displays within the Monterey Bay National Marine Sanctuary, California. http://www.nmfs.noaa.gov/pr/pdfs/permits/mbnms_ea.pdf [accessed on August 27, 2015].

Weigand, JF; and McChesney, GJ. 2008. Seabird and marine mammal monitoring and response to a fireworks display at Gualala Point Island, California, Sonoma County, May to August 2007. Unpublished report, USDI Bureau of Land Management, California State Office, Sacramento, CA; and USDI Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex, Newark, CA. 38 pp.
http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/coastal_monument.Par.31821.File.dat/Master%20Seabird%20Monitoring%20Final%20Report_2008.pdf [accessed on August 27, 2015].

CALIFORNIA STATE LANDS COMMISSION
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825-8202



Established in 1938

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 California Relay Service TDD Phone 1-800-735-2929
 from Voice Phone 1-800-735-2922

Contact Phone: (916) 574-1890
 Contact FAX: (916) 574-1885

September 8, 2015

File Ref: SCH # 2015081013

Ms. Mayra Medel
 San Diego Unified Port District
 Environmental & Land Use Management Department
 3165 Pacific Highway
 San Diego, CA 92101

Subject: Notice of Preparation (NOP) for a Draft Environmental Impact Report (EIR) for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project, San Diego County

Dear Ms. Medel:

The California State Lands Commission (CSLC) staff has reviewed the subject NOP for a Draft EIR for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (Project), which is being prepared by the San Diego Unified Port District (SDUPD). The SDUPD, as the public agency proposing to carry out the project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The CSLC is a trustee agency for projects that could directly or indirectly affect sovereign lands and their accompanying Public Trust resources or uses. Additionally, if the Project involves work on sovereign lands, the CSLC will act as a responsible agency. CSLC staff requests that the SDUPD consult with us on preparation of the Draft EIR as required by CEQA section 21153, subdivision (a), and the State CEQA Guidelines section 15086, subdivisions (a)(1) and (a)(2).

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of

all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court.

Based on the information submitted in the NOP, CSLC staff currently has insufficient location details to determine the extent, if any, of intrusion on, or impact to the State's sovereign ownership interests within the Project area for any individual event. Please consult with the CSLC's Land Management Division contact (see contact information below) at such time as specific event location information becomes available, to determine whether a lease or other authorization from the CSLC is necessary.

Project Description

The Project contemplates approximately 50 fireworks display events that occur annually in and around San Diego Bay and the Pacific Ocean along the city of Imperial Beach oceanfront area over a period of 10 years. Fireworks are typically detonated from piers, flight decks, and/or barges located in and adjacent to the waters of San Diego Bay and the Pacific Ocean along Imperial Beach. The Project analysis assumes an annual growth rate of 2% in the number of events expected to occur within the Project area.

Environmental Review

CSLC staff requests that the SDUPD consider the following comments when preparing the Draft EIR.

General Comments

1. **Project Description**: A thorough and complete Project Description should be included in the Draft EIR in order to facilitate meaningful environmental review of potential impacts, mitigation measures, and alternatives. CSLC staff requests that specific locations for firework discharge be identified, as well as the estimated radius of potential chemical and debris fallout from the displays. Thorough descriptions will facilitate CSLC staff's determination of the extent and locations of its leasing jurisdiction, make for a more robust analysis of the work that may be performed, and minimize the potential for subsequent environmental analysis to be required.

Water Quality

2. CSLC staff requests that the Draft EIR evaluate the levels of chemical residues, including perchlorate, nitrate, and sulfur that could be discharged into waters of the U.S./State on an annual basis due to the proposed fireworks displays. In addition, CSLC staff requests that mitigation be included to address surface debris cleanup by a boat crew the night of a fireworks show, surface and underwater cleanup by a boat crew and divers, and foot patrols to hunt for debris on area beaches.

Biological Resources

3. The Draft EIR should disclose and analyze all potentially significant effects (such as noise, water quality, and increases to light/glare) on sensitive species and habitats in and around the Project area, including special-status wildlife, fish, and plants, and if appropriate, identify feasible mitigation measures to reduce those impacts. The SDUPD should conduct queries of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB) and U.S. Fish and Wildlife Service's (USFWS) Special Status Species Database to identify any special-status plant or wildlife species that may occur in the Project area. The Draft EIR should also include a discussion of consultation with the CDFW and USFWS, including any recommended mitigation measures and potentially required permits identified by these agencies.

Climate Change

4. Greenhouse Gases: A greenhouse gas (GHG) emissions analysis consistent with the California Global Warming Solutions Act (Assembly Bill [AB] 32) and required by the State CEQA Guidelines should be included in the draft EIR. This analysis should identify a threshold for significance for GHG emissions, quantify the operational GHG emissions from the Project (both direct and indirect sources of emissions should be included in the calculations), determine the significance of the impacts of those emissions, and, if impacts are significant, identify mitigation measures that would reduce them to the extent feasible.

Mitigation and Alternatives

5. Deferred Mitigation: In order to avoid the improper deferral of mitigation, mitigation measures should either be presented as specific, feasible, enforceable obligations, or should be presented as formulas containing "performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way" (State CEQA Guidelines, §15126.4, subd. (b)). Please see Comment #2 above for an example of a mitigation that may be appropriate for the proposed Project.
6. Alternatives: In addition to describing mitigation measures that would avoid or reduce the potentially significant impacts of the Project, the SDUPD should identify and analyze a range of reasonable alternatives to the proposed Project that would attain most of the Project objectives while avoiding or reducing one or more of the potentially significant impacts (see State CEQA Guidelines, § 15126.6). For example, discharge sites located further inland may result in less chemical and debris fallout into the bay/ocean.

Thank you for the opportunity to comment on the NOP for the Project. As a trustee and responsible agency, CSLC staff requests that you consult with us on this Project and keep us advised of changes to the Project description and all other important

developments. Please send additional information on the Project to the CSLC staff listed below as the Draft EIR is being prepared.

Please refer questions concerning environmental review to Cynthia Herzog, Senior Environmental Scientist, at (916) 574-1310 or via e-mail at cynthia.herzog@slc.ca.gov. For questions concerning CSLC leasing jurisdiction, please contact Kenneth Foster, CSLC Public Land Manager, at (916) 574-2555 or by email at Kenneth.Foster@slc.ca.gov.

Sincerely,



Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
C. Herzog, CSLC
K. Foster, CSLC
J. Rader, CSLC



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008



In Reply Refer To:
FWS-SDG-15B0320-15CPA0334

OCT 06 2015

Mr. Jason H. Giffen
Director, Environmental Land Use and Management
San Diego Unified Port District
P.O. Box 120488
San Diego, California 92112-0488

Subject: Comments on the Notice of Preparation of a Draft Environmental Impact Report for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115), in San Diego County, California

Dear Mr. Giffen:

The U.S. Fish and Wildlife Service (Service) has reviewed the Notice of Preparation of a Draft Environmental Impact Report (EIR) for San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (NOP). The NOP describes the proposed project and was distributed to the Service to request guidance regarding the scope and content of the environmental information to be included in the EIR. The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

The proposed Project involves continued permitting of ongoing and proposed fireworks display events in and around San Diego Bay and the Imperial Beach Oceanfront in San Diego County, California. Current fireworks display events include the "Big Bay Boom" and other smaller events operated by the San Diego Unified Port District's (District's) tenants. Proposed fireworks displays include fireworks on the Chula Vista Bayfront. Fireworks are detonated from flight decks, barges, and/or piers located adjacent to, or in the waters of San Diego Bay or the Imperial Beach Oceanfront. The District estimates that at this time approximately 50 fireworks displays are permitted per year, and anticipates that firework displays within the Project Area are likely to increase at a rate of 2 percent per year. Fireworks displays currently occur year-round, with a duration ranging from 5-20 minutes. Existing events occur at South Embarcadero, North Embarcadero, near Shelter Island, near Harbor Island, Glorietta Bay, and Imperial Beach Oceanfront.

We appreciate the efforts of the District to address the cumulative impacts of multiple fireworks displays in the proposed DEIR, and offer the following comments and recommendations to assist the District in identifying, avoiding, minimizing, and adequately mitigating direct and indirect project-related impacts to fish and wildlife resources, including Endangered and Threatened species:

1. San Diego Bay and the Imperial Beach Oceanfront, including the vicinity of some launch and viewing sites, support resident and migratory sea birds, shore birds, passerines, endangered bird species, sea turtles, fish, and marine mammals. Significant populations of birds use portions of San Diego Bay year round: during the summer months thousands of birds nest, breed, and raise young, particularly in south San Diego Bay; and during the winter months, thousands of migrating or wintering waterfowl take refuge in the Bay. Fireworks displays include significant levels of light, noise, and vibration known in some instances to result in temporary disturbance to wildlife (Patton 2013; Sandoval 2005). Fireworks may also disrupt roosting and exacerbate predation pressure (Caffree 1994). If launched over or near the water, displays may deposit residual debris and chemical constituents into the water and thereby affect water quality (San Diego Regional Water Quality Control Board 2011). Please include in the DEIR a thorough review of the available literature pertaining to the potential or documented impacts of fireworks displays or similar punctuated disturbances on wildlife.
2. To facilitate assessment of the environmental effects of the proposed action, we recommend that the DEIR include: 1) a figure that depicts the precise location of existing and future proposed launch sites; 2) a figure depicting the location of sensitive resource use areas within the vicinity of proposed launch sites (including, but not limited to, Sweetwater National Wildlife Refuge, Chula Vista Wildlife Reserve, South San Diego Bay Unit of San Diego National Wildlife Refuge, San Diego International Airport Least Tern Nesting Area, Naval Base Coronado Delta Beaches, Naval Base Coronado “heron park”, Tijuana National Wildlife Refuge, marine mammal haul out areas); 3) a figure that depicts the location and abundance of rare, endangered, and other sensitive species that occur in the vicinity of proposed launch sites (including, but not limited to, federally threatened Western snowy plover (*Charadrius nivosus nivosus*, snowy plover), federally endangered California least tern (*Sternula antillarum browni*, least tern), federally endangered Light-footed clapper rail, recently reclassified as “Ridgeway’s rail” (*Rallus longirostris levipes*, clapper rail), Belding’s Savannah sparrow (*Passerculus sandwichensis beldingi*, Savannah sparrow), American Peregrine falcon (*Falco peregrinus anatum*, peregrine falcon), gull-billed tern (*Gelochelidon nilotica*)); 4) information regarding the abundance and distribution of water birds use San Diego Bay, Tijuana Estuary, and Imperial Beach (for example, information available from San Diego Bay bird surveys supported by the U.S. Navy and the District, annual San Diego Shorebird Survey, and San Diego National Wildlife Refuge bird surveys).

3. Please include in the DEIR detailed information regarding the number, location, and duration of baseline events that have occurred in recent years, and the number, location, and duration of additional proposed events (i.e. events that have been permitted by the District, but have not yet occurred).
4. The DEIR should include an analysis of the intensity and extent of light, sound, vibration, and debris/fallout anticipated as a result of the fireworks displays, based on the size and number of fireworks shells that will be used. The analysis of the effects of the proposed action should include an assessment of the areas where light, sound, vibration, and debris are expected to have a direct impact on wildlife.
5. The DEIR should include an analysis of the potential indirect effects of the fireworks displays on wildlife resources in the Project Area. Potential indirect effects of fireworks displays include, but are not limited to: disturbance or impacts to resources from spectators, changes in water quality associated with debris or fallout from fireworks.
6. The Carlsbad Fish and Wildlife Office has previously recommended, and continues to recommend that the no fireworks displays occur within the Chula Vista Bayfront during the avian breeding season (generally January-September) due to the close proximity to the abundance of sensitive wildlife resources that occur within and around the Sweetwater National Wildlife Refuge, the South San Diego Bay National Wildlife Refuge (Wildlife Refuges), and the Chula Vista Wildlife Reserve. Similarly, we have recommended and continue to recommend that fireworks displays be minimized at the Loew's Coronado Resort during the avian breeding season due to the proximity of this hotel to protected least tern and snowy plover habitat at Silver Strand State Beach and Naval Base Coronado.
7. The DEIR should include conservation measures to avoid and minimize the potential impacts of the Project on sensitive wildlife. The Carlsbad Fish and Wildlife Office has previously recommended conservation measures be included to existing and ongoing fireworks displays specifically to avoid and/or minimize potential impacts to nesting least terns and snowy plovers, including: 1) Location of discharge sites for fireworks as far away as possible (minimum of 1 mile) from the nearest least tern or snowy plover nesting site; 2) Delineation and law enforcement patrol of shoreline around least tern and snowy plover nesting areas to prevent spectators from coming ashore or anchoring in eelgrass beds; 3) Reduction in shell size to reduce the percussive vibrations associated with fireworks detonations; 4) Development and implementation of a least tern and snowy plover monitoring approach approved by the CFWO; 5) Development of a plan to mitigate any negative impacts (to least terns and snowy plovers) observed by the monitoring biologist.

8. The District estimates that fireworks displays may increase approximately 2 percent per year. The DEIR should analyze the need for an increased number of fireworks displays. We recommend that the District consider limiting the number of fireworks displays that may occur throughout the year at approved launch sites.

We appreciate the opportunity to provide comments on this NOP. Should you have any questions regarding this letter, please contact Sandy Vissman of my staff at (760) 431-9440.

Sincerely,



for: Karen A. Goebel
Assistant Field Supervisor

Literature Cited

- Caffrey, C. 1994. California least tern breeding survey, 1993 season. California Department of Fish and Game, Wildlife Management Division, Nongame Bird and Mammal Section Rep. 94-07, Sacramento, CA. 39 pp.
- Patton, R. 2013. Email report of monitoring at San Diego International Airport least tern colony, July 4, 2013. 1 page.
- San Diego Regional Water Quality Control Board. 2011. General Waste Discharge Requirements For The Public Display Of Fireworks In The San Diego Region. http://www.waterboards.ca.gov/sandiego/water_issues/programs/npdes/fireworks/fireworks.shtml
- Sandoval, C. 2005. Final report on the Western Snowy Plovers, Coal Oil Point Reserve, Santa Barbara, California.

From: [Sara Kent](#)
To: [Mayra Medel](#)
Cc: [Marco Gonzalez](#); [Livia Borak](#)
Subject: Comments re: San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115)
Date: Wednesday, September 23, 2015 3:27:45 PM

Good afternoon ~

Please accept the following exhibits as concerns of the Coastal Environmental Rights Foundation (CERF) which should be addressed in the Draft Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Project (UPD #EIR-2015-115).

- Water and Air Quality Impacts Exhibits:
https://drive.google.com/file/d/0B8S4us_eOGvNY2QxMDA5ZTMtODRjNC00NWVlWJkNWYtZDJiMjVhMzdhdWY5/view
- Wildlife Impacts Exhibits 1-13 (excluding 4):
https://drive.google.com/file/d/0B8S4us_eOGvNNzY5MTU3NWmtNmFimY00NzhhLWE5OTYtNjFIZTZlZyZlNINzY4/view
- Wildlife Impacts Exhibit 4:
https://drive.google.com/file/d/0B8S4us_eOGvNZGRmYTJmN2QtNjE1Zi00NmUxLWE3ZmEtMzdhdGVhMGUzOTFl/view?usp=sharing

Thank you for your consideration of these documents in your preparation of the EIR.

Sincerely,

Sara Kent



Appendix C
Fireworks in California

LAWS AND REGULATIONS FOR TRANSPORTATION,
USE AND STORAGE OF



Fireworks in California

2011 Edition

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- I. State Fireworks Law**, California Health and Safety Code, Section 12500 - 12759
- II. State Fireworks Regulations**, Title 19, California Code of Regulations, Chapter 6
- III. Storage**, Title 27, Code of Federal Regulations part 55, Sub-part K
- IV. Hazardous Materials Transportation**, Title 13, California Code of Regulations, Selected Sections
- V. Model Rocketry**, National Fire Protection Association, Code 1122, Referenced Sections

INTRODUCTION

The California State Fire Marshal is pleased to present the 2008 edition of FIREWORKS IN CALIFORNIA. This book is a compilation of all relevant national and state standards relating to this topic.

The Health and Safety Codes directs the California State Fire Marshal to prepare regulations governing the use of fireworks in California. The law provides a general framework around which more detailed regulations have been drawn. Users of this document should refer to, and comply with, both State Fireworks Law (statutory law) and State Fireworks Regulations, located in Sections I and Section II of this publication.

This edition has been prepared to serve as a FIREWORKS HANDBOOK. The objective of this document is to provide a publication that will enhance the safe use of pyrotechnic material and be a reference source for enforcement and fire prevention personnel as well as licensees.

In addition to the sections covering Laws and Regulations, this document includes sections that provide pertinent information regarding material referenced within the regulations. Particularly significant are the sections covering transportation and storage of fireworks.

It is recommended that users thoroughly familiarize themselves with the material contained in the CALIFORNIA FIREWORKS HANDBOOK and that a copy of be available wherever fireworks to be used or transported.

California Health and Safety Code

Section 12500-12759

STATE FIREWORKS LAW

CALIFORNIA HEALTH & SAFETY CODE

SECTIONS 12500-12728

FIREWORKS

Chapter 1

GENERAL PROVISIONS AND DEFINITIONS

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12530.	Salesman.
12531.	Sell.
12532.	Special effects.
12533.	Wholesaler.
12534.	Within this state.

12500. This part shall be known and may be cited as the State Fireworks Law
12501. Unless the context otherwise requires, the definitions in this chapter govern the construction of this part.

12502. Advertise

"Advertise" means an announcement publicly with any sign, card, or notice, or by any other means, on which appears a person's name or business name style offering to sell or transfer fireworks or pyrotechnic devices, or to cause a person's name or business name to be included in any classified advertisement or directory for the purpose of the sale or transfer of fireworks or pyrotechnic devices.

12503. Agricultural and wildlife fireworks

"Agricultural and wildlife fireworks" means fireworks designed and intended by the manufacturer to be used to prevent damage to crops or unwanted occupancy of areas by animals or birds through the employment of sound or light, or both.

12504. Flammable liquid

"Flammable liquid" means any liquid whose flashpoint is 100° Fahrenheit, or less, when tested pursuant to Standard D56-70 of the American Society for testing and materials.

12505. Dangerous fireworks

(1) "Dangerous fireworks" includes all of the following:

(a) Any fireworks which contain any of the following:

(1) Arsenic sulfide, arsenates, or arsenites.

(2) Boron

(3) Chlorates, except:

(A) In colored smoke mixture in which an equal or greater amount of sodium bicarbonate is included.

(B) In caps and party poppers.

(C) In those small items (such as ground spinners) wherein the total powder content does not exceed 4 grams of which not greater than 15 percent (or 600 milligrams) is potassium, sodium, or barium chlorate.

- (4) Gallates or Gallic acid.
- (5) Magnesium (magnesium-aluminum alloys, called magnalium, are permitted).
- (6) Mercury salts.
- (7) Phosphorus (red or white except that red phosphorus is permissible in caps and party poppers).
- (8) Picrates or picric acid.
- (9) Thiocyanates.
- (10) Titanium, except in particle size greater than 100-mesh.
- (11) Zirconium.

(b) Firecrackers.

(c) Skyrockets and rockets, including all devices which employ any combustible or explosive material and which rise in the air during discharge.

(d) Roman candles, including all devices which discharge balls of fire into the air.

(e) Chasers, including all devices which dart or travel about the surface of the ground during discharge.

(f) Sparklers more than 10 inches in length or one-fourth of one inch in diameter.

(g) All fireworks designed and intended by the manufacturer to create the element of surprise upon the user. These items include, but are not limited to, autofoolers, cigarette loads, exploding golf balls, and trick matches.

(h) Fireworks known as devil-on-the-walk, or any other fireworks which explodes through means of friction, unless otherwise classified by the State Fire Marshal pursuant to this part.

(i) Torpedoes of all kinds which explode on impact.

(j) Fireworks kits.

(k) Such other fireworks examined and tested by the State Fire Marshal and determined by him, with the advice of the State Board of Fire Services to possess characteristics of design or construction which make such fireworks unsafe for use by any person not specially qualified or trained in the use of fireworks.

12506. Emergency signaling device

"Emergency signaling device" means a pyrotechnic device designed and intended by the manufacturer to be used as such and which provides a reasonable degree of safety to the user and does not create a fire hazard when used according to the label of instructions.

12507. End fuse

"End fuse" means a fuse inserted into any fireworks or pyrotechnic device at the end as distinguished from the side of such item.

12508. Exempt fireworks

"Exempt fireworks" means any special item containing pyrotechnic compositions which the State Fire Marshal, with the advice of the State Fire Advisory Board, has investigated and determined to be limited to industrial, commercial, agricultural use, or religious ceremonies when authorized by a permit granted by the authority having jurisdiction.

12509. Exporter

"Exporter" means any person who sells, consigns, or delivers fireworks located within this state for delivery, use, or sale out of this state.

12510. Fire nuisance

"Fire nuisance" means anything or any act which increases, or may cause an increase of, the hazard or menace of fire, or which may obstruct delay, or hinder, or may become the cause of any obstruction, delay, or hindrance, to the prevention or extinguishment of fire.

12511. Fireworks

"Fireworks" means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment.

The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks, torpedoes, skyrockets, roman candles, rockets, Daygo bombs, sparklers, party poppers, paper caps, chasers, fountains, smoke sparks, aerial bombs, and fireworks kits.

12512. Fireworks kit

"Fireworks kit" means any assembly of materials or explosive substances, which is designed and intended by the seller to be assembled by the person receiving such material or explosive substance and when so assembled would come within the definition of fireworks in Section 12511.

12513. Importer

"Importer" means any person who for any purpose does any of the following:

(a) Brings fireworks into this state or causes fireworks to be brought into this state.

(b) Procures the delivery or receives shipments of any fireworks into this state.

(c) Buys or contracts to buy fireworks for shipment into this state.

12514. Issuing authority

"Issuing authority" means any person who has the responsibility of evaluating the application for, and issuing, the permits required by Section 12640.

12515. Label of registration

"Label of registration" means the label of registration of the State Fire Marshal.

12516. License

"License" means any nontransferable authorization granted by the State Fire Marshal to engage in any activity regulated by this part.

12517. Licensee

"Licensee" means any person 21 years of age or older holding a fireworks license issued pursuant to Chapter 5 (commencing with Section 12570).

12518. Manufacturer

"Manufacturer" means any person who manufactures, makes, constructs, fabricates, or produces any fireworks or pyrotechnic devices, but does not include any person who assembles or fabricates any sets or mechanical pieces for public displays of fireworks, or persons operating within the scope of public display or pyrotechnic operator licenses.

12519. Model rocket

"Model rocket" means any toy or educational device which weighs not more than 500 grams, including the engine and any payload, that is propelled by model rocket engines.

12520. Model rocket engine

"Model rocket engine" means a commercially manufactured, non-reusable rocket propulsion device which is constructed of a nonmetallic casing and solid propellant, wherein all of the ingredients are self-contained so as not to require mixing or handling by the user and which have design and construction characteristics determined by the State Fire Marshal to provide a reasonable degree of safety to the user.

12521. Package

"Package" includes any case, container, or receptacle, used for holding fireworks, which is closed or sealed by tape, cordage, or by any other means.

12522. Permit

"Permit" means the nontransferable permission granted by the public agency having local jurisdiction to a licensee for the purposes of establishing and maintaining a place where fireworks are manufactured, constructed, produced, packaged, stored, sold, exchanged, discharged, or used, or the nontransferable permission granted by the public agency having local jurisdiction or by the State Fire Marshal to a licensee for the purpose of transporting fireworks.

12523. Person

"Person" means any person, co-partnership, organization, firm, corporation, association, or any combination thereof, or any city, county, city and county, and state, and shall include any of their employees and authorized representatives.

12524. Public display of fireworks

"Public display of fireworks" means an entertainment feature where the public or a private group is admitted or permitted to view the display or discharge of dangerous fireworks.

12525. Pyrotechnic compositions

"Pyrotechnic compositions" means any combination of chemical elements or chemical compounds capable of burning independently of the oxygen of the atmosphere.

12526. Pyrotechnic device

"Pyrotechnic device" means any combination of materials, including pyrotechnic compositions, which, by the agency of fire, produce an audible, visual, mechanical or thermal effect designed and intended to be useful for industrial, agricultural, personal safety, or educational purposes.

The term "pyrotechnic device" includes, but is not limited to, agricultural and wildlife fireworks, model rockets, exempt fireworks, emergency signaling devices, and special effects.

12527. Pyrotechnic operator

"Pyrotechnic operator" means any licensed pyrotechnic operator, who by examination, experience, and training, has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted.

12528. Retailer

"Retailer" means any person who, at a fixed place of business, sells, transfers, or gives fireworks to a consumer or user.

12529. Safe and Sane fireworks

"Safe and sane fireworks" means any fireworks which do not come within the definition of "dangerous fireworks" or "exempt fireworks".

12530. Salesman

"Salesman" means any person who, as an employee of a manufacturer or wholesaler, solicits, accepts, or receives an order for fireworks for a licensee or permittee.

12531. Sell

"Sell" means any arrangement between two or more persons as a result of which there is a transfer of property for a consideration.

12532. Special effects

"Special effects" means articles containing any pyrotechnic composition manufactured and assembled, designed, or discharged in connection with television, theater, or motion picture productions, which may or may not be presented before live audiences and any other articles containing any pyrotechnic composition used for commercial, industrial, education, recreation, or entertainment purposes when authorized by the authority having jurisdiction.

12533. Wholesaler

"Wholesaler" means any person, other than an importer, exporter, or manufacturer selling only to wholesalers, who sells fireworks to a retailer or any other person for resale. It also includes any person who sells dangerous fireworks to public display permittees.

12534. Within this state

"Within this state" means within all territory within the boundaries of this state.

Chapter 2

EXCEPTIONS

12540. Application of provisions

The provisions of this part shall not apply to any of the following:

(a) Explosives regulated under Part 1 (commencing with Section 12000) of Division 11.

(b) Arms and handguns defined as firearms by the Federal Gun Control Act of 1968 as well as such devices and weapons classified under Section 12020 or 12301 of the Penal Code, including blank cartridge pistols of the type used at sporting events or theatrical productions.

(c) Research or experiments with rockets or missiles or the production or transportation of rockets or missiles by the Department of Defense of the United States, or by any agency or organization acting pursuant to a contract with the Department of Defense for the development and production of rockets or missiles.

(d) Paper caps which contain less than 0.25 grain of pyrotechnic composition per unit load.

12541. Local regulations

Nothing in this part authorizes the sale, use, or discharge of fireworks in any city, county, or city and county in which the sale, use, or discharge is otherwise prohibited or regulated by law or ordinance.

12541.1. Special districts, prohibition or regulation of sale, use, or discharge of fireworks by ordinance or regulation; prevalence of state, county, or city regulations

(a) A special district which provides fire protection, prevention, or suppression services may adopt an ordinance or regulation to prohibit or regulate the sale, use, or discharge of fireworks within that special district.

(b) If the county or city in which any area of the special district is located has adopted an ordinance or regulation to prohibit or regulate the sale, use, or discharge of fireworks within that county or city, the ordinance or regulation adopted by the county or city shall prevail over the ordinance or regulation adopted by the special district within any area of the special district which is within that county or city, and only the ordinance or regulation adopted by the county or city shall be operative in that area of the special district.

(c) If any area of a special district encompasses lands which are a state responsibility area, as defined in Sections 4125 and 4126 of the Public Resources Code, any regulation or prohibition of the state with respect to the sale, use, or discharge of fireworks within the state responsibility area shall prevail over any ordinance or regulation of the special district within that area.

Chapter 3

ADMINISTRATION

Sec.

- 12550. State Fire Marshal.
- 12551. Deputies and employees.
- 12552. Rules and regulations; adoption.
- 12553. Classification of new types of fireworks or pyrotechnic devices.
- 12554. Rules and regulations; duration.
- 12555. Examination of books and records; inspection of premises by fire marshal.
- 12556. Data Collection
- 12557. Model Ordinance
- 12558. Inspection by issuing authority.

12550. State Fire Marshal

The State Fire Marshal shall enforce and administer this part.

12551. Deputies and employees

The State Fire Marshal shall appoint such deputies and employees as may be required to carry out the provisions of this part, subject to approval in the annual Budget Act.

12552. Rules and regulations; adoption

The State Fire Marshal shall adopt such regulations relating to fireworks as may be necessary for the protection of life and property not inconsistent with the provisions of this part. These regulations shall include, but not be limited to, provisions for the following:

- (a) Granting of licenses and permits for the manufacture, wholesale, import, export, and sale of all classes of fireworks.
- (b) Classification of fireworks and pyrotechnic devices.
- (c) Registration of employees of licensees.
- (d) Licenses and permits required for presentation of public displays.
- (e) Granting of licenses and permits for research or experimentation with experimental or model rockets and missiles.
- (f) Investigation, examination, and licensing of pyrotechnic operators of all classes.

- (g) Registration of emergency signaling devices and the classification and use of exempt fireworks.
- (h) Transportation of all classifications of fireworks, model rockets, emergency signaling devices, and exempt fireworks.

12553. Classification of new types of fireworks or pyrotechnic devices

The State Fire Marshal shall also adopt regulations for classification of any new type of fireworks or pyrotechnic devices which have not been classified prior to January 1, 1974 and for the regulation of such fireworks in accordance with the provisions of this part.

12554. Rules and regulations; duration

The regulations adopted by the State Fire Marshal relating to fireworks and in existence on January 1, 1974 shall continue thereafter to be in effect as regulations of the State Fire Marshal until amended or repealed pursuant to the provisions of this

12555. Examination of books and records; inspection of premises by Fire Marshal

The State Fire Marshal or his salaried deputies may make an examination of the books and records of any licensee or permittee relative to fireworks, and may visit and inspect any building or other premises subject to the control of, or used by, the licensee or permittee for any purpose related to fireworks of any licensee or permittee at any time he may deem necessary for the purpose of enforcing the provisions of this part.

12556. Data Collection

In addition to the obligations described in Section 13110.5, on or before July 1, 2008, the State Fire Marshal shall identify and evaluate methods to capture more detailed data relating to fires, damages, and injuries caused by both dangerous fireworks and safe and sane fireworks. These evaluation methods shall include a cost analysis related to capturing and reporting the data and shall meet or exceed the specificity, detail, and reliability of the data captured under the former California Fire Incident Reporting System (CFIRS). The State Fire Marshal shall furnish a copy of these evaluation methods to any interested person upon request.

12557.

Model Ordinance

- (a) The Office of the State Fire Marshal shall consult with public safety agencies and other stakeholder as deemed necessary by the State Fire Marshal and develop a model ordinance that permits local jurisdictions to adopt a streamline enforcement and administrative fine procedures related to the possession of 25 pounds or less of dangerous fireworks. These procedures shall be limited to civil fines and as authorized pursuant to Section 53069.4 of the Government Code, and provide that such fines collected pursuant to this section shall not be subject to Section 12706. The model ordinance shall include provisions for reimbursing the Office of the State Fire Marshal for the cost associated with the disposal of seized fireworks and collecting these disposal costs as part of an administrative fine as described in subdivision (c).
- (b) An ordinance of a local jurisdiction in effect on or after January 1, 2008, that is related to dangerous fireworks and is not the model ordinance described in subdivision (a) shall, as soon as practicable, comply with all of the following:
 - (1) The ordinance shall be amended or adopted to include provisions for cost reimbursement to the Office of the State Fire Marshal and the collection of disposal costs as part of an administrative fine as described in subdivision (c).
 - (2) The ordinance shall be amended or adopted to provide that the ordinance shall be limited to a person who possesses or the seizure of 25 pounds or less of dangerous fireworks
 - (3) The ordinance shall be amended or adopted to provide that the fines collected pursuant to the ordinance shall not be subject to section 12706.
- (c) The State Fire Marshal shall, in consultation with local jurisdictions, develop regulation to specify a procedure on how to cover cost to the Office of the State Fire Marshal for the transportation and disposal of dangerous fireworks that are seized by local jurisdictions. The regulations shall include, but are not limited to all of the following:
 - (1) A cost recovery procedure to collect, as part of an administrative fine, the actual cost for transportation and disposal of dangerous fireworks from any person who violates a local ordinance related to dangerous fireworks.
 - (2) The method by which the actual cost for transportation and disposal by the Office of the State Fire Marshal will be calculated.

- (3) The method, manner, and procedure the local jurisdiction is required to follow to forward the amounts collected pursuant to paragraph (1) to the State Fire Marshal

12558. **Inspection by issuing authority**

The licensee or permittee shall permit the chief of the issuing authority, or his authorized representatives, as qualified in Section 12721, to enter and inspect any building or other premises subject to the control of or used by the licensee or permittee for any purpose related to fireworks at any time for the purpose of enforcing the provisions of this part.

Chapter 4

CLASSIFICATION OF FIREWORKS AND PYROTECHNIC DEVICES

Sec.

- 12560. Classification; necessity.
- 12561. Classification as dangerous fireworks.
- 12562. Classification as safe and sane fireworks.
- 12563. Classification as agricultural and wildlife fireworks.
- 12564. Classification as exempt fireworks.
- 12565. Classification as model rocket engines.
- 12566. Classification as emergency signaling devices.
- 12567. Fireworks previously classified as safe and sane.
- 12568. Stamping and labeling.
- 12569. Examination and classification limited to fireworks submitted by valid licensees.

12560. Classification; necessity

The State Fire Marshal shall classify all fireworks and pyrotechnic devices in accordance with the provisions of this chapter. No fireworks or pyrotechnic devices shall be imported, sold, or offered for sale prior to the examination and classification by the State Fire Marshal.

12561. Classification as dangerous fireworks

All fireworks examined by the State Fire Marshal and determined by him to come within the definition of "dangerous fireworks" in Section 12505 shall be classified as dangerous fireworks.

12562. Classification as safe and sane fireworks

All fireworks examined by the State Fire Marshal and determined by him to come within the definition of "safe and sane fireworks" in Section 12529 shall be classified as safe and sane fireworks.

12563. Classification as agricultural and wildlife fireworks

All fireworks examined by the State Fire Marshal and determined by him to come within the definition of "agricultural and wildlife fireworks" in Section 12503 shall be classified as agricultural and wildlife fireworks.

- 12564. Classification as exempt fireworks**
All fireworks examined by the State Fire Marshal and determined by him to come within the definition of "exempt fireworks" in Section 12508 shall be classified as exempt fireworks.
- 12565. Classification as model rocket engines**
All fireworks or toy propellant devices containing pyrotechnic compositions examined by the State Fire Marshal and found by him to come within the definition of "model rocket" or "model rocket engine" in Section 12519 or 12520, respectively, shall be classified as model rocket engines.
- 12566. Classification as emergency signaling devices**
All pyrotechnic devices examined by the State Fire Marshal and found by him to come within the definition of "emergency signaling devices" in Section 12506 shall be classified by the State Fire Marshal as emergency signaling devices.
- 12567. Fireworks previously classified as safe and sane**
Those fireworks classified by the State Fire Marshal as safe and sane prior to January 1, 1974 may continue to bear that designation and may be sold as safe and sane fireworks until 12 noon on July 6, 1974. All fireworks previously designated as safe and sane which are offered for sale or sold during the 1974 retail license year and thereafter shall bear the State Fire Marshal label with the classification of safe and sane fireworks.
- 12568. Stamping and labeling**
The manufacturer, importer, or wholesaler shall stamp or label each case or carton of dangerous fireworks offered for sale, sold, consigned, or delivered within the state for sale or use within this state as dangerous fireworks. Each package of safe and sane fireworks shall be marked as safe and sane fireworks and shall bear the State Fire Marshal's classification label and licensee's registration number.
- 12569. Examination and classification limited to fireworks submitted by valid licensees**
Except as provided in Section 12637 and pursuant to the provisions of Sections 12560 and 12581, fireworks or pyrotechnic devices examined and classified by the State Fire Marshal shall be submitted by manufacturers, wholesalers, and importers/exporters holding a valid license only.

Chapter 5

LICENSES

Article 1

TYPES OF LICENSES

Sec.

- 12570.** Power to issue license.
- 12571.** Manufacturer's license.
- 12572.** Wholesaler's license.
- 12573.** Importer's and exporter's license.
- 12574.** Retail sales license.
- 12575.** Public display license (special).
- 12576.** Public display license (general).
- 12577.** Public display license (limited).
- 12578.** Pyrotechnic operator license.
- 12579.** Transportation.

12570. Power to issue license

The State Fire Marshal may issue any license described in this part, subject to the regulations which he may adopt not inconsistent with the provisions of this part.

12571. Manufacturer's license

A manufacturer's license shall allow the manufacture of fireworks and other pyrotechnic devices of all types and the sale and transport to licensed wholesalers in California only and the sale to special effects pyrotechnic operators of materials and devices for which such pyrotechnic operators hold a valid permit.

12572. Wholesaler's license

A wholesaler's license allows the sale and transportation of all types of fireworks to licensed retailers, or retailers operating under a permit, licensed public display operators, and other licensed wholesalers in California only and sale to special effects pyrotechnic operators holding a valid permit and sale of exempt fireworks to those industrial and commercial concerns that possess a valid permit from the local agency having jurisdiction in the area where such fireworks are to be used or stored.

12573. Importer's and exporter's license

An importer's and exporter's license shall allow fireworks to be imported into and exported from the state. Import activity shall be limited to the sale of fireworks to licensed wholesalers and licensed manufacturers only. Export activity shall be limited to the sale of fireworks to persons outside of the state. Holders of this type of license shall not be issued or possess a public display license of any type without first securing a wholesaler's license. This section shall not require a license for a motion picture production company to transport or deliver special effects from within the state to a destination outside of the state.

12574. Retail sales license

A retail sales license allows the retail sale of safe and sane fireworks for private

12575. Public display license (special)

A public display (special) license allows the holding and conducting at various times of public displays of dangerous fireworks at a single location only.

12576. Public display (general)

A public display license (general) allows the holding and conducting of public displays of dangerous fireworks at various locations and at various times.

12577. Public display license (limited)

A public display license (limited) allows the performance of a single public display action of a single nature with dangerous fireworks at one location to be executed at one or more performances or exhibitions.

12578. Pyrotechnic operator license

The State Fire Marshal shall adopt regulations that identify and specify the scope of each class of pyrotechnic operator license. A pyrotechnic operator license shall allow the licensee to handle, supervise, or discharge dangerous fireworks at public displays of all types, and to handle, supervise, or discharge rockets and special effects pyrotechnic devices which produce an audible or visual effect in connection with group entertainment or motion picture productions which may or may not be held before live audiences.

12579. **Transportation**

All licensees may transport the class of fireworks for which they hold a valid license as provided in Section 12651.

Article 2

ISSUANCE, REVOCATION AND RENEWAL

Sec.

- 12580. Power to issue and renew.
- 12581. Application; forms. Applications; signature.
- 12583. Salesman or employees; age restriction.
- 12584. Blank
- 12585. Withdrawal of application.
- 12586. Disciplinary action.
- 12587. Written report as grounds for denial.
- 12588. Denial of application after prior denial.
- 12589. Void applications.
- 12590. Revocation; grounds.
- 12591. Suspension pending investigation.
- 12592. Right of hearing.
- 12593. Hearings; procedure.
- 12594. Time reports and payments deemed made.
- 12595. Fee for fiscal year.
- 12596. License for half year.
- 12597. Application for renewal; penalty.
- 12598. Failure to renew; surrender of license.
- 12599. Safe and sane fireworks; time of sale.
- 12600. License nontransferable.
- 12601. Expiration of license upon failure to renew.
- 12602. License requirements; exemptions.
- 12603. Television, motion picture or theater productions; manufacturer's license not required.
- 12604. Disposal of fireworks after revocation or surrender of license.
- 12605. Violation of provisions of this part.
- 12606. Charge of violations to be filed with State Fire Marshal.
- 12607. Persons convicted of certain felonies; denial of license.
- 12608. Employees of licensee convicted of felonies; restrictions.
- 12609. Repealed.
- 12610. Liability insurance for public display of fireworks; amount.
- 12611. Certificate of insurance; contents.

12580. **Power to issue and renew**

The State Fire Marshal may issue and renew licenses for the manufacture, import, export, sale, and use of all fireworks and pyrotechnic devices in this state.

12581. Application; forms

Any person who desires to manufacture, import, export, sell or use fireworks, shall first make written application for a license to the State Fire Marshal on forms provided by him. Such application shall be accompanied by the annual license fee as prescribed in this chapter.

12582. Applications; signature

The application for a license shall be signed by the applicant. If the application is made by a partnership, it shall be signed by each partner of the partnership. If the application is made by a corporation, it shall be signed by an officer of the corporation and bear the corporation's seal.

12583. Salesmen or employees; age restrictions

The authorization to engage in the particular act or acts conferred by a license to a person shall extend to salesmen or other employees of such person who are registered with the State Fire Marshal. The sales personnel and other employees of licensed retailers, however, need not be registered with the State Fire Marshal. No person under the age of 18 shall sell, or handle for sale, any classification of fireworks.

12585. Withdrawal of application

Any applicant may withdraw his application for a license or renewal of a license and the State Fire Marshal may allow the withdrawal when he has determined that it is in the best interest of public safety or the administration of this part.

12586. Disciplinary action

The suspension, expiration, or forfeiture by operation of law of a license issued by the State Fire Marshal, or its suspension, forfeiture, or cancellation by order of the State Fire Marshal or by a court of law, or its surrender to the State Fire Marshal shall not, during any period in which it may be renewed, restored, reissued, or reinstated, deprive the State Fire Marshal of his authority to institute or continue disciplinary action against the licensee upon any ground provided by law, or to enter an order suspending or revoking a license or otherwise taking disciplinary action against the licensee on any such ground.

12587. Written report as grounds for denial

A written report by the State Fire Marshal, any of his deputies, or salaried assistants, or by the chief of any city or county fire department or fire protection district or their authorized representatives, disclosing that the applicant for a license or for renewal of a license does not meet, or the premises for which the license is required do not meet, the qualifications or conditions for such license as required by this part or regulations adopted pursuant to this part, may constitute grounds for denial of any application for the license or renewal of the license.

12588. Denial of application after prior denial

The State Fire Marshal may deny, without hearing an application for a license or renewal of a license, if within one year prior to the date of application, the State Fire Marshal has denied or revoked a license after proceedings conducted in accordance with the provisions of Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code for the same applicant on the ground of violation of this part.

12589. Void applications

The application for any license shall become void when any of the following occurs:

(a) The State Fire Marshal has notified the applicant to appear for examination and the applicant fails to appear or fails to submit a written statement of just cause for not appearing.

(b) The applicant fails to achieve a passing score on a required examination. A minimum qualifying score shall be established by regulations pursuant to this part.

(c) The applicant has not submitted documentary evidence of his qualifications as required by regulations adopted pursuant to this part.

(d) The applicant has failed to submit evidence of insurability as required by this part.

(e) The applicant withdraws his application prior to an investigation by the State Fire Marshal to determine if the license shall be issued.

(f) The license is denied after a hearing is conducted as provided by this part.

(g) The applicant has made misrepresentations or filed false statements.

12590. Revocation or denial; grounds

The State Fire Marshal may deny or revoke any license issued pursuant to this part if the State Fire Marshal finds any of the following conditions has occurred:

(a) The licensee has failed to pay the annual renewal license fee provided in this chapter.

(b) The licensee or license applicant has violated any provisions of this part or any regulations adopted by the State Fire Marshal pursuant to this part.

(c) The licensee or license applicant has created or caused a fire nuisance.

(d) The licensee has failed to keep full, complete, and accurate records or failed to file any required reports.

(e) Any fact or condition exists which, if it had existed at the time of the original application for the license reasonably would have warranted the State Fire Marshal in refusing originally to issue the license.

(f) The permit issued under Section 12640 has been rescinded or revoked by the issuing authority.

(g) Any licensee or license applicant has refused to make available to the State Fire Marshal full, complete, and accurate records.

12591. Suspension pending investigation

The State Fire Marshal may, upon three days notice, suspend any license for a period not exceeding 30 days pending investigation of any violation of the provisions of this part.

12592. Right of hearing

Any applicant who has been denied a license or renewal of a license, or any licensee who has had a license suspended, shall be entitled to a hearing in accordance with the provisions of this part.

12593. Hearings; procedure

Except where otherwise provided in this part, all hearings under this part shall be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

12594. Time reports and payments deemed made

Reports on fireworks transactions or the payment of license fees or penalties required by this part shall be deemed to have been made or paid at the time they are filed with, or paid to, the State Fire Marshal, or, if sent by mail, on the date shown by the United States postmark on the envelope containing the report or payment.

12595. Fee for fiscal year

Except as otherwise provided in Section 12599, on and after July 1, 1974, the original and annual license fee shall be for the fiscal year beginning July 1 and ending June 30 of the following year, or for the remaining portion of such fiscal year if the license is issued after the beginning of that fiscal year.

12596. License for half year

Any person or organization may obtain any license required by this part between January 1, 1974, and June 30, 1974, to be effective for that period only.

12597. Application for renewal; penalty

Application for renewal of a license shall be made during the license renewal period in the current license year in order to renew a license for the next following license year. The license renewal period shall begin on January 1 and end May 1 preceding the license year for which renewal is requested. A penalty of 50 percent of the basic license fee shall be assessed in all cases where the renewal fees are not paid on or before May 1, preceding the license year for which renewal is requested. This section shall not apply to retail sales licenses.

12598. Failure to renew; surrender of license

Every licensee who fails to renew his or her license by the time the license expires shall surrender the license to the State Fire Marshal within 10 days after the license expires.

12599. Safe and sane fireworks; time of sale

A retail license shall authorize a retail sale of safe and sane fireworks within this state only during the period of 12 noon on the 28th of June through 12 noon on the 6th of July of the same calendar year and such license shall expire at the end of such period. No retail license shall be issued for the license period defined in this section unless the application for such license is received by the State Fire Marshal on or before June 15 proceeding the license period. A new retail sales license shall be required annually for the period specified in this section.

12600. License nontransferable

Except as provided in Section 12583, the authority to perform any acts permitted by a license issued under this part shall be limited to the licensee and shall not be transferable.

12601. Expiration of license upon failure to renew

Except as provided in Section 12599, any license not renewed in accordance with the provisions of this part shall automatically expire at 12 midnight on June 30 of each year.

12602. License requirements; exemptions

A license shall not be required for the retail sale, use, or discharge of agricultural and wildlife fireworks, model rocket engines, or emergency signaling devices.

12603. Television, motion picture or theater productions; manufacturer's license not required

No person or employee holding a pyrotechnic license shall be required to obtain a manufacturer's license to design, assemble, compound, use, discharge, fabricate, construct, or erect any fireworks of any class or any combination thereof when such person or employee of such person is engaged in the business of producing television, motion picture, theater, or opera productions if the fireworks are for a specific use in a particular production or are used to maintain a reasonable inventory of special effects by a special effects independent contractor.

12604. Disposal of fireworks after revocation or surrender of license

Following the revocation or voluntary surrender of a license, or failure to renew his license, any person in lawful possession of lawfully acquired fireworks for which a license is required may sell or otherwise dispose of such fireworks only under supervision of the State Fire Marshal and in such a manner as he shall provide by regulations and solely to persons who are authorized to buy, possess, sell, or use such fireworks. Such disposal shall be accomplished not later than 90 days from the legal revocation, voluntary surrender, or day that the license expires. Any person possessing fireworks pursuant to this section shall report the disposition of such fireworks to the local authority who issued the storage permit within the time period specified by this section.

12605. Violation of provisions of this part

Any person found guilty of violating any of the provisions of this part is not eligible to apply for a new license, apply for a renewal of a license, or take an examination for any license for a period of one year from the date of any conviction. The State Fire Marshal may waive the provisions of this section when he finds to granting of a license will not endanger public safety.

12606. Charge of violations to be filed with State Fire Marshal

Any charges against applicants for a license or against licensees which would be cause for the State Fire Marshal to initiate proceedings for revocation or denial of a license shall be filed with the State Fire Marshal within three years of the alleged act or omission.

12607. Persons convicted of certain felonies; denial of license

The State Fire Marshal may deny the application for a license or the application for renewal of a license filed by any person who has been convicted of a felony involving explosives or dangerous fireworks or who has been convicted as a principal or accessory in a crime against property involving arson or any other fire-related offense contained in Chapter I (commencing with Section 447a) of Title 13 of Part 1 of the Penal Code.

12608. Employees convicted of felony; authority to perform acts

The authority to perform those acts conferred upon the employee of a licensee as provided for in Section 12583 may be denied to any person who has been convicted of a felony.

12610. Liability insurance for public display of fireworks; amount

Notwithstanding any of the provisions of the law which may require a certificate of insurance as a condition for a permit to hold a general, special, or limited public display, any person, firm, or corporation applying for a public display license shall furnish to the State Fire Marshal a policy of public liability and property damage insurance, with limits, as determined by the State Fire Marshal, which are reasonably necessary to cover possible liability for damage to property and bodily injury or damage to persons which may result from, or be caused by, the public display of fireworks, or any negligence on the part of the licensee or his or her or its agents, servants, employees, or subcontractors presenting the public display.

12611. Certificate of insurance; contents

The certificate of insurance shall provide all of the following:

- (a) That the insurer will not cancel the insured's coverage without 15 days prior written notice to the State Fire Marshal.
- (b) That the duly licensed pyrotechnic operator required by law to supervise and discharge the public display, acting either as an employee of the insured or as an independent contractor and the state of California, its officers, agents, employees, and servants are included as additional insureds, but only insofar as any operations under contract are concerned.
- (c) That the state shall not be responsible for any premium or assessments on the policy.

Article 4

REPORTS

Sec.

- 12615.** Records; maintenance and availability.
- 12616.** Report of theft or loss.
- 12617.** Notification to fire authorities of theft or loss.
- 12618.** License numbers on papers covering sales or shipments.
- 12619.** Reports to be filed by import and export licensees; contents.
- 12620.** Supplemental reports.

12615. Records; maintenance and availability

All licensees, except retailers, shall maintain and make available to the State Fire Marshal full and complete, true, and accurate records showing all production, imports, exports, purchases, sales, or other disposition or consumption of fireworks by kind and class whether dangerous, safe and sane, or agricultural and wildlife fireworks.

12616. Report of theft or loss

The licensees shall report any theft or loss of fireworks to the State Fire Marshal within 24 hours after the discovery of the theft or loss. The report shall show the quantity, type and kind, classification of fireworks and the location where the loss occurred.

12617. Notification to fire authorities of theft or loss

In the event of the theft or loss of any fireworks or pyrotechnic devices, the State Fire Marshal shall notify the fire authorities in the location where the theft or loss occurred and the fire authorities shall cooperate with the State Fire Marshal in conducting a joint investigation of the circumstances.

12618. License numbers on papers covering sales or shipments

Each bill of lading, manifest, and invoice issued to cover the sale and shipment of fireworks shall bear the license number of both the seller or shipper and buyer or receiver.

12619. Reports to be filed by import and export licensees; contents

All import and export licensees shall file a notice with the State Fire Marshal prior to the arrival of any class of fireworks subject to the license he holds. The notice shall state all of the following:

- (a) Estimated date of arrival.
- (b) Type, kind, and quantity of fireworks.
- (c) Name of carrier.
- (d) Point of origin and bill of lading number.
- (e) Name and address of consignee.
- (f) Load number or other identification carton marks.

12620. Supplemental reports

In addition to the report required under this part, the State Fire Marshal may by regulation require such additional reports from licensees or permittees as are necessary to carry out the purposes of this part, and prescribe the form, including verification of the information to be given when filing such additional reports.

Article 5

FEES

Sec.

- 12630.** Establishment and collection of original and annual renewal fees.
12631. Agricultural and wildlife fireworks; establishment and collection of fee.
12632. Model rocket engines; amount of fee.
12633. Registration of model or emergency signaling device; fee.
12634. Dual licensing.
12635. California fireworks licensing fund; deposit of moneys collected.
12636. Certification of records and documents; fee.
12637. Non-license manufacturers; fee for examination of products.

12630. Establishment and collection of original and annual renewal fees

The State Fire Marshal shall establish and collect the original and annual renewal fees for fireworks licenses required by this chapter. The fees shall not exceed the amount necessary to cover the costs incurred in the administration and enforcement of this part.

12631. Agricultural and wildlife firework; establishment and collection of

The original and annual renewal license fee to manufacture, import, export, or wholesale, or any combination thereof, agricultural and wildlife fireworks shall be established and collected by the State Fire Marshal.

12632. Model rocket engines; establishment and collection fee

The original and annual renewal license fee to manufacture; import, export, or wholesale, or any combination thereof, model rocket engines shall be established and collected by the State Fire Marshal.

12633. Registration of model of emergency signaling device; fee

The original and annual renewal application for registration of each model of emergency signaling devices shall be made to the State Fire Marshal. A registration fee established and collected by the State Fire Marshal for each model of signaling device shall accompany each application.

12634. Dual licensing

When a license to manufacture, wholesale, or import and export fireworks has been issued pursuant to Section 12571, 12572, or 12573, respectively, a separate license for the same person to manufacture, wholesale, import, or export agricultural and wildlife fireworks or model rocket engines pursuant to Section 12631 or 12632 shall not be required where the license allows such activity with respect to other fireworks.

12635. California fireworks licensing fund; deposit of money collected

The California Fireworks Licensing Fund is hereby established in the State Treasury. All of the moneys collected pursuant to this part shall be deposited in the fund and those moneys shall be available, when appropriated by the Legislature, to the State Fire Marshal to carry out the provisions of this part.

12636. Certification of records and documents; fee

Except as otherwise provided by law, the State Fire Marshal shall charge a fee in the amount of five dollars (\$5) for each certified copy of any record, document, or paper in his custody, or for certification of any document representing the content of any such record, document, or paper.

12637. Non-licensed manufacturers; fee for examination of products

All fireworks or pyrotechnic devices intended for sale in this state, which are products of non-licensed manufacturers, shall be examined and classified by the State Fire Marshal upon written application on forms provided by him. Such application shall be accompanied by a fee as follows:

(a) Ten dollars (\$10) for each label of an item of identical size and design of a given lot or batch, provided that the lot or batch is identifiable by a code, serial number, shipment lot, case cargo number, etc.

A separate application and fee shall be submitted for each lot or batch. The State Fire Marshal seal and the wholesalers or importers registration number shall not be imprinted on the label until the lot or batch has been examined and classified.

Chapter 6

PERMITS

Sec.

- 12640. Necessity of permit.
- 12641. Safe and sane fireworks; emergency signaling devices; permit not required.
- 12642. Duration of permit.
- 12643. Application.
- 12644. License as prerequisite.
- 12645. Investigation and report.
- 12646. Grant or denial of permit.
- 12647. Delegation of power to grant or deny application; appeal from denial; action by board.
- 12648. Application for permit for public display of fireworks; investigation.
- 12649. Submission of license; proof of compensation insurance.
- 12650. Lawful sale to permittee.
- 12651. Transportation of fireworks or pyrotechnic devices; approved routes.
- 12652. Transportation permit.
- 12653. Application for transportation permit.
- 12654. Carriers not required to obtain transportation permit.

12640. **Necessity of permit**

In any case where this chapter requires that a permit be obtained from the State Fire Marshal, or in any case where the public agency having local jurisdiction requires pursuant to this chapter that a permit be obtained, any licensee shall possess a valid permit before performing any of the following:

- (a) Manufacturing, importing, exporting, storing, possessing, or selling dangerous fireworks at wholesale.
- (b) Manufacturing, importing, exporting, storing, selling at wholesale and retail safe and sane fireworks and transporting safe and sane fireworks, except that a transportation permit shall not be required for safe and sane fireworks possessed by retail licensees.
- (c) Manufacturing, importing, exporting, possessing, storing, transporting, using, selling at wholesale and retail, those fireworks classified by the State Fire Marshal as agricultural and wildlife fireworks.
- (d) Manufacturing, importing, exporting, possessing, storing, selling at wholesale and retail, model rocket engines.

(e) Discharging dangerous fireworks at any place, including a public display.

(f) Using special effects.

12641. Safe and sane fireworks; emergency signaling devices: permit not required

A permit, as provided in this part, shall not be required of any person to transport, purchase at retail, or use safe and sane fireworks, or to purchase at retail, use, or transport registered emergency signaling devices.

12642. Duration of permit

The effective period of the permit shall be defined in the permit and in no case shall the period of the permit exceed the valid period of the license. This section shall not prohibit the revocation of the permit by the issuing authority for just cause where a fire nuisance exists or where personal injury may occur.

12643. Application

Any licensee desiring to do any act specified in Section 12640 shall first make written application for a permit to the chief of the fire department or the chief fire prevention officer of the city or county, or to such other issuing authority which may be designated by the governing body of the city or county. In the event there is no such officer or person appointed within the area, application shall be made to the State Fire Marshal or his deputy. Applications for permits shall be made in writing at least 10 days prior to the proposed act.

12644. License as prerequisite

The issuing authority shall not accept an application for a permit from any person who does not possess, and present at the time of application, evidence of a valid license to perform those acts specified on the application for the permit. When a license is not required for specific acts, the issuing authority may prescribe such reasonable conditions to qualify the applicant to receive a permit and provide for the public safety.

12645. Investigation and report

The officer to whom the application for a permit is made shall undertake an investigation and submit a report of his findings and his recommendation concerning the issuance of the permit, together with his reasons therefore, to the governing body of the city or county. The applicant for a permit to conduct a public display shall file a certificate evidencing the possession of a valid public display license with the officer making the investigation.

12646. Grant or denial of permit

The governing body may grant or deny the permit, subject to such reasonable conditions, if any, as it shall prescribe.

12647. Delegation of power to grant or deny application; appeal from denial; action by board

The governing body may delegate the power to grant or deny the permit to the issuing authority to whom the application is made. In such case, the governing body shall also provide for a hearing by the governing body by which an applicant may appeal a denial of the permit. The governing body may, after such a hearing, reverse, modify, or sustain the denial.

12648. Application for permit for public display of fireworks; investigation

The officer to whom the application for a permit for a public display of fireworks is made shall make an investigation to determine whether such a display as proposed will be of such character or so located that it may be hazardous to property or dangerous to any person. He shall, in the exercise of reasonable discretion, recommend granting or denying the permit, subject to such conditions as he may prescribe.

12649. Submission of license; proof of compensation insurance

The applicant for a permit for any public display of fireworks shall, at the time of application, submit his license for inspection and furnish proof that he carries compensation insurance for his employees as provided by the laws of this state.

12650. Lawful sale to permittee

When a permit for the public display of fireworks is granted, the sale, possession, transportation, and use of fireworks for the public display is lawful for that purpose only. The permit to hold a public display shall authorize the transportation of public display fireworks between the approved routes, as specified in Section 12651, and the public display site.

12651. Transportation of fireworks or pyrotechnic devices; approved routes

Any person holding a valid license for the manufacture, wholesale, or import and export of dangerous fireworks or pyrotechnic devices may transport any class of fireworks or pyrotechnic devices authorized by such license. Persons holding a special effects pyrotechnic operators license may transport special effects fireworks, but the transportation of fireworks by all other pyrotechnic operator licensees shall not be permitted. The authority granted to the licensee to transport fireworks is limited to traveling upon the approved routes for the transportation of explosives designated as provided in Section 31616 of the Vehicle Code and equip and maintain any vehicle used to transport fireworks as required by Section 31610 of the Vehicle Code. It is the intent of the Legislature by this section to require the maximum use of the approved routes in the delivery of fireworks to the point of destination.

12652. Transportation permit

When traveling between the approved routes, as specified in Section 12651 and the point of destination the licensee shall possess a transportation permit from the local fire authority having jurisdiction over the boundaries in which the off-route travel occurs. A transportation permit is not required for public display fireworks as provided in Section 12650.

12653. Application for transportation permit

The application for a transportation permit shall be submitted to the State Fire Marshal for the transportation of any quantity of fireworks where such transportation is outside the boundaries of the issuing authority having jurisdiction at the point of origin or such shipment originates within this state and is transported out of this state.

The application for a transportation permit as required by this section shall be approved by the issuing authority having jurisdiction at the place where the shipment originates before the State Fire Marshal shall issue such transportation permit. No further permits shall be required by issuing authorities other than the authority at the point of origin where the State Fire Marshal has issued a permit pursuant to this section.

12654. Carriers not required to obtain transportation permits

A transportation permit shall not be required by this part for public carriers or private carriers who each hold a valid license or permit issued pursuant to the provisions of Division 14 (commencing with Section 31600) of the Vehicle Code or Division 11 (commencing with Section 12000) of the Health and Safety Code.

Chapter 7
VIOLATIONS

- Sec.**
- 12670.** Advertising involving fireworks or pyrotechnic devices.
- 12671.** Unclassified and unregistered fireworks.
- 12672.** Safe and sane fireworks; time of sale.
- 12673.** Storage of fireworks.
- 12674.** Revoked or surrendered licenses; storage or possession of fireworks.
- 12675.** Failure to record license number on sales and shipments.
- 12676.** Dangerous fireworks; sale or transfer to one not a permittee.
- 12677.** Possession of dangerous fireworks without a permit.
- 12678.** Use or discharge of agricultural and wildlife fireworks without a permit.
- 12679.** Storage, sale or discharge of fireworks near flammable liquids.
- 12680.** Discharge of fireworks where likelihood of injury to other person.
- 12681.** Safe and sane fireworks; sale; place of business.
- 12682.** Fire nuisance.
- 12683.** Unregistered emergency signaling device; sale or use.
- 12684.** Use of emergency signaling devices.
- 12685.** Public display; permit required.
- 12686.** Special effects fireworks; use.
- 12687.** Special effects fireworks; sale or transfer.
- 12688.** Advertising to sell or transfer fireworks.
- 12689.** Sale or delivery to persons under 18 years of age.
- 12690.** Expired license or permit.
- 12691.** Regulations adopted by State Fire Marshal; violation of.
- 12692.** Operations or functions of licensed pyrotechnic operator holding special effects license

12670. Advertising involving fireworks or pyrotechnic devices

It is unlawful for any person to advertise that he is in any business or venture involving fireworks or pyrotechnic devices or shall cause his name or business name style to be included in any classified advertisement or directory under a classification which includes the word fireworks, unless he is licensed pursuant to this part.

12671. Unclassified and unregistered fireworks

It is unlawful for any person to sell, offer for sale, use, discharge, possess, store, or transport any type of fireworks within this state unless the State Fire Marshal has classified and registered such fireworks.

12672. Safe and sane fireworks; time of sale

It is unlawful for any person to sell, or offer for sale, safe and sane fireworks at any time outside of the period specified in Section 12599.

12673. Storage of fireworks

It is unlawful for any person to store any fireworks without having in his possession a valid permit as required by this part.

12674. Revoked or surrendered licenses; storage or possession of fireworks

It is unlawful for any person to store or possess any fireworks for which a license is required and which has been revoked or surrendered or any license which has not been renewed and such storage or possession is held beyond the period provided for in Section 12604.

12675. Failure to record license number on sales and shipments

It is unlawful for any person to fail to record on each bill of lading, manifest or invoice issued to cover the sale or shipment of fireworks, the license number of both the seller or shipper and the buyer or receiver; unless the sale or shipment is made to non-licensees in accordance with the provisions of his license.

12676. Dangerous fireworks; sale or transfer to one not a permittee

It is unlawful for any person to sell, transfer, give, deliver, or otherwise convey title of any dangerous fireworks, including fireworks kits, to any person in this state who does not possess and present to the seller or donor for inspection at the time of transfer, a valid permit to receive, use, or transport dangerous fireworks as provided in this part.

12677. Possession of dangerous fireworks without a permit

It is unlawful for any person to possess dangerous fireworks without holding a valid permit.

12678. Use or discharge of agricultural and wildlife fireworks without a permit

It is unlawful for any person to use or discharge agricultural and wildlife fireworks without first securing a permit as provided in this part.

- 12679. Storage, sale or discharge of fireworks near flammable liquids**
- It is unlawful for any person to store, sell, or discharge any type of fireworks in or within 100 feet of a location where gasoline or any other flammable liquids are stored or dispensed.
- 12680. Discharge of fireworks where likelihood of injury to other person**
- It is unlawful for any person to place, throw, discharge or ignite, or fire dangerous fireworks at any person or group of persons where there is a likelihood of injury to any such person.
- 12681. Safe and sane fireworks; sale; place of business**
- It is unlawful for any person to sell or transfer any safe and sane fireworks to a consumer or user thereof other than at a fixed place of business of a retailer for which a license and permit has been issued.
- 12682. Fire nuisance**
- It is unlawful for any person to allow or permit a fire nuisance, as defined in Section 12510, to exist on any premises where any fireworks are manufactured, sold, assembled, discharged, packaged, stored, or distributed. The authority to determine that a fire nuisance exists shall be vested in those officers identified in Section 12721.
- 12683. Unregistered emergency signaling device; sale or use**
- It is unlawful for any person to sell, use, or discharge any emergency signaling device not registered by the State Fire Marshal.
- 12684. Use of emergency signaling devices**
- It is unlawful for any person to use or discharge any registered emergency signaling device in any manner other than that permitted by the instructions for use.
- 12685. Public display; permit required**
- It is unlawful for any person to conduct a public display without possessing a valid permit for this purpose.
- 12686. Special effects fireworks; use**
- It is unlawful for any person to use any special effects fireworks unless he possesses a pyrotechnic operator license.

12687. Special effects fireworks; sale or transfer

It is unlawful for any person to sell, transfer, give, or deliver any special effects fireworks to any person not licensed as a pyrotechnic operator.

12688. Advertising to sell or transfer fireworks

It is unlawful for any person to advertise to sell or transfer any class of fireworks, including agricultural and wildlife fireworks or model rocket engines, unless he possesses a valid license or permit.

12689. Sale or delivery to persons under 18 years of age

(a) It is unlawful for any person to sell, give, or deliver any dangerous fireworks to any person under 18 years of age.

(b) It is unlawful for any person who is a retailer to sell or transfer any safe and sane fireworks to a person who is under 16 years of age.

(c) Except as otherwise provided in subdivision (d), it is unlawful for any person who is a retailer to sell or transfer to a person under the age of 18 any rocket, rocket propelled projectile launcher, or similar device containing any explosive or incendiary material whether or not the device is designed for emergency or distance signaling purposes. It is also unlawful for a minor to possess such a device unless he or she has the written permission of, or is accompanied by, his or her parent or guardian while it is in his or her possession.

(d) Model rocket products including model rockets, launch systems, and model rocket motors designed, sold, and used for the purpose of propelling recoverable model rockets may be sold or transferred pursuant to regulations, adopted by the State Fire Marshal which the Fire Marshal determines are reasonably necessary to carry out the requirements of this part.

12690. Expired license or permit

It is unlawful for any person to perform any act, or transact or attempt to transact any business, with an expired license or an expired permit where a license or permit is required for the performance of such act or transaction.

12691. Regulations adopted by State Fire Marshal; violation of

It is unlawful for any person to violate any provision of any regulation adopted by the State Fire Marshal pursuant to this part.

12692. Operations or functions of licensed pyrotechnic operator holding special effects license

This chapter shall not prohibit the operations or functions of a licensed pyrotechnic operator holding a special effects license when the operations or functions are a necessary part of the production and are performed pursuant to a valid permit issued by the authority having jurisdiction.

Chapter 8

PENALTIES

Sec.

- 12700.** Offenses; punishment.
12701. Separate offense for each day of violation.
12702. Sale of delivery of dangerous fireworks to persons under 18 years of age; penalty.
12703 Temporary Suspension of Commercial Driving Privileges
12704 Unauthorized Shipments (Attorney General Notice)
12706 Fines and Forfeitures

12700. Offenses; punishment

(a) Except as provided in Section 12702 and subdivision (b), a person who violates any provision of this part, or any regulations issued pursuant to this part, is guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than five hundred dollars (\$500) nor more than one thousand dollars (\$1,000) or by imprisonment in the county jail for not exceeding one year, or by both such fine and imprisonment.

(b) A person who violates any provision of this part, or any regulations issued pursuant to this part, by possessing dangerous fireworks shall be subject to the following:

- (1) A person who possesses a gross weight, including packing, of less than 25 pounds of unaltered dangerous fireworks, as defined in Section 12505, is guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than five hundred dollars (\$500) or more than one thousand dollars (\$1000), or by imprisonment in the county jail for not exceeding one year, or both that fine and imprisonment. Upon a second or subsequent conviction, a person shall be punished by a fine of not less than one thousand dollars (\$1000) or by imprisonment in the county jail not exceeding one year or both that fine and imprisonment.
- (2) A person who possesses a gross weight, including packing, of not less than 25 pounds or more than 100 pounds of unaltered dangerous fireworks, as defined in Section 12505, is guilty of a public offense, and upon conviction shall be punished by imprisonment in the county jail for not more than one year, or by a fine of not less than one thousand dollars (\$1000) or more

than five thousand dollars (\$5000), or by both that fine and imprisonment.

(3) A person who possesses a gross weight, including packaging, of not less than 100 pounds or more than 5,000 pounds of unaltered dangerous fireworks, as defined in Section 12505, is guilty of a public offense, and upon conviction shall be punished by imprisonment in the state prison or the county jail for not more than one year, or by a fine of not less than five thousand dollars (\$5,000) or more than ten thousand dollars (\$10,000), or by both that fine and imprisonment.

(4) A person who possesses a gross weight, including packaging, of more than 5,000 pounds of unaltered dangerous fireworks, as defined in Section 12505, is guilty of a public offense, and upon conviction shall be punished by imprisonment in the state prison or the county jail for not more than one year, or by a fine of not less than ten thousand dollars (\$10,000) or more than fifty thousand dollars (\$50,000), or by both that fine and imprisonment.

(c) Subdivision (b) shall not apply to a person who holds and is operating within the scope of a valid license as described in Section 12516 or valid permit as described in Section 12522.

12701. Separate offense for each day of violation

A person is guilty of a separate offense for each day during which he commits, continues, or permits a violation of this part or any provision of, or any order, regulation issued pursuant to, this part.

12702. Sale or delivery of dangerous fireworks to persons under 18 years of age; dangerous fireworks having total net weight of 7,500 grains or more; penalties

(a) Any person who violates this part by selling, giving, or delivering any dangerous fireworks to any person under 18 years of age is guilty of a misdemeanor and upon a first conviction shall be punished as prescribed in Section 12700.

(b) Upon any second or subsequent conviction of the offense, the person shall be punished by an additional fine of five thousand dollars (\$5000) or by imprisonment in the county jail for up to one year or by both that fine and imprisonment. The person shall not be granted probation and the execution of the sentence imposed upon the person shall not be suspended by the court.

- 12703.** (a) The State Fire Marshal shall, in conjunction with the Department of Motor Vehicles, develop regulations and procedures to temporarily suspend the commercial motor vehicle license of a person who is operating a commercial motor vehicle while transporting unaltered dangerous fireworks, as defined in Section 12505, having a gross weight, including packaging, of 10,000 pounds or more.
- (b) A driver of a commercial motor vehicle shall not operate a commercial motor vehicle for three years if the driver is convicted of transporting unaltered dangerous fireworks, as defined in Section 12505, having a gross weight, including packaging, of 10,000 pounds or more, as described in Section 15301 of the Vehicle Code.
- (c) This section shall not apply to a person who holds and is operating within the scope of a valid license as described in Section 12516 or valid permit as described in Section 12522

- 12704.** The State Fire Marshal, at least once a year and in consultation with the Attorney General, shall serve notice to any individual or business known to supply fireworks that any unauthorized shipments of fireworks into California will result in an immediate report to federal authorities with a request for any relevant federal prosecution.

- 12706.** Notwithstanding Section 1463 of the Penal Code, all fines and forfeitures imposed by or collected in any court of this state, except for administrative fines described in Section 12557, as a result of citations issued by a public safety agency, for any violation of subdivision (b) of Section 12700 or of any regulation adopted pursuant to subdivision (b) of Section 12700, shall be deposited, as soon as practicable after the receipt of the fine or forfeiture, with the county treasurer of the county in which the court is situated. Amounts deposited pursuant to this section shall be paid at least once a month as follows:
- (a) Sixty-five percent to the Treasurer, by warrant of the county auditor drawn upon the requisition of the clerk or judge of the court, for deposit in the State Fire Marshal Fireworks Enforcement and Disposal Fund, as described in Section 12728, on order of the Controller. At the time of the transmittal, the county auditor shall forward to the Controller, on the form or forms prescribed by the Controller, a record of the imposition, collection, and payments of the fines or forfeitures.
- (b) Thirty-five percent to the local public safety agency in the county in which the offense was committed to reimburse the local public safety agency for expenses, including, but not limited to, the costs for handling, processing, photographing, and storing seized dangerous fireworks.

Chapter 9

REMEDIES

Sec.	
12720.	Injunction.
12721.	Seizure.
12722.	Fireworks subject to seizure.
12723.	Notice of seizure; disposal.
12724.	Petition for return of seized fireworks.
12725.	Preventing or stopping public displays.
12726.	Dangerous fireworks; disposal
12727.	Enforcement and Disposal Fund Regulations
12728.	Enforcement and Disposal Fund Establishment

12720. Injunction

Any threatened violation of any provision of this part or of any order or regulation of the State Fire Marshal issued pursuant to this part may be enjoined in a civil action brought in the name of the people of the State of California. Such actions may be instituted by the Attorney General or the district attorney of the county in which the act, practice, or transaction is about to be committed.

12721. Seizure

The State Fire Marshal, his or her salaried deputies, or any chief of a fire department, or his or her authorized representatives, any fire protection agency, or any other public agency authorized by statute to enforce the State Fire Marshal's regulations, may seize any fireworks described in this part. The State Fire Marshal, any chief of a fire department, any fire protection agency, or any other public agency authorized to enforce the State Fire Marshal's regulations may charge any person, firm, or corporation, whose fireworks are seized pursuant to this section, an amount which is sufficient to cover the cost of transporting, storing, and handling the seized fireworks. When the State Fire Marshal, other enforcing officer or agency described in this section, or a court determines that a person's, firm's or corporation's fireworks are illegally or erroneously seized, or if legal proceedings do not result in a conviction for violation of any provision of this part, any funds collected pursuant to this section shall be refunded, or if charged but unpaid, canceled.

12722. Fireworks subject to seizure

The following fireworks may be seized pursuant to Section 12721:

(a) Those fireworks which are sold, offered for sale, possessed, stored, used, or transported within this state prior to having been examined, classified, and registered by the State Fire Marshal, except those specific items designated as samples pending examination, classification, and registration by the State Fire Marshal where the licensee provides documentary evidence that such action by the State Fire Marshal is pending.

(b) All imported fireworks possessed without benefit of the filing of notices as required by this part.

(c) Safe and sane fireworks stored in violation of the conditions required by the permit as provided in this part.

(d) Safe and sane fireworks sold or offered for sale at retail which do not bear the State Fire Marshal label of registration and firing instructions.

(e) Safe and sane fireworks sold or offered for sale at retail which are in unsealed packages or containers which do not bear the State Fire Marshal label of registration and firing instructions.

(f) Safe and sane fireworks sold or offered for sale at retail before 12 noon on the 28th day of June or after 12 noon on the sixth day of July of each year.

(g) Each safe and sane fireworks item sold or offered for sale at retail which does not have its fuse or other igniting device protected by a cap approved by the State Fire Marshal, or groups of fireworks with exposed fuses which are not enclosed in sealed packages which bear the State Fire Marshal label or registration. The State Fire Marshal shall approve such caps as he determined provide reasonable protection from unintentional ignition of the fireworks.

(h) Dangerous fireworks, including fireworks kits, used, possessed, stored, manufactured, or transported by any person who does not possess a valid permit authorizing any activity listed in this part.

(i) Any fireworks stored or sold in any public garage or public oil station, or on any premises where gasoline or any other class 1 flammable liquids are stored or dispensed.

(j) Any fireworks still possessed by a person who has just thrown any ignited fireworks at any person or group of persons.

(k) Any model rocket engines or model rockets with engines possessed by any person not holding a valid permit.

(l) Any emergency signaling device sold, offered for sale, or used which does not bear the State Fire Marshal label of registration as required by this part.

(m) Any fireworks or pyrotechnic device offered for sale by any person violating any provision of this part.

12723. Notice of seizure; disposal

The authority seizing any fireworks under the provisions of this chapter shall notify the State Fire Marshal not more than three days following the date of seizure and shall state the reason for the seizure and the quantity, type, and location of the fireworks. Any fireworks, with the exception of dangerous fireworks, seized pursuant to Section 12721 shall be disposed of by the State Fire Marshal in the manner prescribed by the State Fire Marshal at any time subsequent to 60 days from the seizure or 10 days from the final termination of proceedings under the provisions of Section 12593 or Section 12724, whichever is later. Dangerous fireworks shall be disposed of according to procedures in Sections 12724 and 12726 Any fireworks seized by any authority as defined in this chapter, other than the State Fire Marshal or his or her salaried assistants, shall be held in trust for the State Fire Marshal by that authority.

12724. Petition for return of seized fireworks; determination; finality

(a) Any person whose fireworks are seized under the provisions of this chapter may, within 10 days after seizure, petition the State Fire Marshal to return the fireworks seized upon the ground that the fireworks were illegally or erroneously seized. Any petition filed pursuant to this section shall be considered by the State Fire Marshal within 15 days after filing or after a hearing granted to the petitioner, if requested. The State Fire Marshal shall advise the petitioner of his or her decision in writing. The determination of the State Fire Marshal is final unless within 60 days after seizure an action is commenced in a court of competent jurisdiction in the State of California for the recovery of the fireworks seized pursuant to this part, except as provided in subdivision (b).

(b) The determination of the State Fire Marshal is final in the case of the seizure of dangerous fireworks, unless within 20 days after the notice of the determination is mailed to the petitioner an action is commenced in a court of competent jurisdiction in the State of California for the recovery of the fireworks seized pursuant to this part.

12725. Preventing or stopping public displays

The State Fire Marshal, his salaried deputies, or any chief or his authorized representatives as qualified in this chapter may prevent, stop, or cause to be stopped, any public display in progress, or any proposed public display, when the location, discharge, or firing of such public display is determined by him to be hazardous to property or dangerous to the public.

12726. Dangerous fireworks; disposal

(a) The dangerous fireworks seized pursuant to this part shall be disposed of by the State Fire Marshal in the manner prescribed by the State Fire Marshal at any time after the final determination of proceedings under Section 12724, or upon final termination of proceedings under Section 12593, whichever is later. If no proceedings are commenced pursuant to Section 12724, the State Fire Marshal may dispose of the fireworks after all of the following requirements are satisfied

(2) The analysis of the random sampling has been completed.

(3) Photographs have been taken of the dangerous fireworks to be destroyed.

(4) The State Fire Marshal has given written approval for the destruction of the dangerous fireworks seized, the total weight of the dangerous fireworks to be destroyed, and the total weight of the dangerous fireworks not to be destroyed.

(b) To carry out the purposes of this section, the State Fire Marshal shall acquire and use statewide mobile dangerous fireworks destruction units to collect and destroy seized dangerous fireworks from local and state agencies.

(c) If dangerous fireworks are seized pursuant to a local ordinance that provides for administrative fines or penalties and these fines or penalties are collected, the local government entity collecting the fines or penalties shall forward 65 percent of the collected moneys to the Controller for deposit in the State Fire Marshal Fireworks Enforcement and Disposal Fund, as described in Section 12728.

12727. Enforcement and Disposal Fund Regulations

- (a) The State Fire Marshal shall establish regulations pursuant to the requirements and procedures established with the Office of Administrative Law to assess fees on all import and export, wholesale, and retail fireworks licensees in California to be deposited in the State Fire Marshal Fireworks Enforcement and Disposal Fund.
- (b) In determining the appropriate amount of the fees described in subdivision (a), the State Fire Marshal shall consult with the fireworks industry and import and export, wholesale, and retail fireworks licensees.
- (c) The total amount of the fees collected shall not exceed the reasonable costs of the statewide programs described in subdivision (c) of Section 12728.

12728. Enforcement and Disposal Fund Establishment

- (a) The State Fire Marshal Fireworks Enforcement and Disposal Fund is hereby established in the State Treasury.
- (b) All of the moneys collected pursuant to Section 12706 shall be deposited in the fund and shall be available, upon appropriation by the Legislature, to the State Fire Marshal for the exclusive use in statewide programs for the enforcement, prosecution related to, disposal, and management of seized dangerous fireworks, and for the education of public safety agencies in the proper handling and management of dangerous fireworks.
- (c) All of the moneys collected pursuant to Section 12727 shall be deposited in the fund and shall be available, upon appropriation by the Legislature, to the State Fire Marshal for the exclusive use in statewide programs for all of the following:
 - (1) To further assist in statewide programs for the enforcement, prosecution related to, disposal, and management of seized dangerous fireworks.
 - (2) The education of public safety agencies in the proper handling and management of dangerous fireworks as well as safety issues involving all fireworks and explosives.
 - (3) Assist the State Fire Marshal in identifying and evaluating methods to capture more detailed data relating to fires, damages, and injuries caused by both dangerous and safe and sane fireworks, and to assist with funding the eventual development and implementation of those methods.
 - (4) To further assist in public safety and education efforts within the general public as well as public safety agencies on the proper and responsible use of safe and sane fireworks.

Part 3

FLAMETHROWING DEVICES

Chapter 1

Definitions and Scope

12750. For purposes of this part, the following definitions shall apply:

(a) "Flamethrowing device" means any nonstationary and transportable device designed or intended to emit or propel a burning stream of combustible or flammable liquid a distance of at least 10 feet.

(b) "Permitholder" means a person who holds a flamethrowing device permit issued pursuant to this part.

12751. This part shall not apply to the sale, purchase, possession, transportation, storage, or use of a flamethrowing device by a person if all of the following apply:

(a) The person is regularly employed by or a paid officer, employee, or member of a fire department, fire protection district, or firefighting agency of the federal government, the state, a city, a county, a city and county, district, public or municipal corporation, or political subdivision of this state.

(b) The person is on duty and acting within the course and scope of his or her employment.

(c) The flamethrowing device is used by the fire department, fire protection district, or firefighting agency described in subdivision (a) in the course of fire suppression.

Chapter 2

ADMINISTRATION

12755. No person shall use or possess a flamethrowing device without a valid flamethrowing device permit issued by the State Fire Marshal pursuant to this part.

12756. The State Fire Marshal shall adopt regulations to administer this part and establish standards for the background investigation of an applicant for, and holder of, a flamethrowing device permit, and for the use, storage, and transportation of a flamethrowing device. In adopting these regulations, the State Fire Marshal shall consult with the Department of Justice regarding regulations for the use and possession of destructive devices (Chapter 12.5 (commencing with Section 970) of Division 1 of Title 11 of the California **Code** of Regulations). These regulations for the use and possession of destructive devices may provide suggestions for potential methods to utilize in developing standards and shall serve as guidance only. At a minimum, the regulations adopted by the State Fire Marshal shall require a permitholder to possess a current, valid certificate of eligibility issued by the Department of Justice pursuant to paragraph (4) of subdivision (a) of Section 12071 of the Penal **Code**.

12756. The State Fire Marshal shall adopt regulations to administer this part and establish standards for the background investigation of an applicant for, and holder of, a flamethrowing device permit, and for the use, storage, and transportation of a flamethrowing device. In adopting these regulations, the State Fire Marshal shall consult with the Department of Justice regarding regulations for the use and possession of destructive devices (Chapter 12.5 (commencing with Section 970) of Division 1 of Title 11 of the California **Code** of Regulations). These regulations for the use and possession of destructive devices may provide suggestions for potential methods to utilize in developing standards and shall serve as guidance only. At a minimum, the regulations adopted by the State Fire Marshal shall require a permitholder to possess a current, valid certificate of eligibility issued by the Department of Justice pursuant to subdivisions (a) to (c), inclusive, of Section 26710 of the Penal **Code**.

12757. The State Fire Marshal may issue or renew a permit to use and possess a flamethrowing device only if all of the following conditions are met:

(a) The applicant or permitholder is not addicted to any controlled substance.

(b) The applicant or permitholder possesses a current, valid certificate of eligibility issued by the Department of Justice pursuant to subdivisions (a) to (c), inclusive, of Section 26710 of the Penal **Code**.

(c) The applicant or permitholder meets the other standards specified in regulations adopted pursuant to Section 12756.

12758. (a) If the State Fire Marshal denies an application for, or the renewal of, or revokes a flamethrowing device permit, the applicant for a flamethrowing device permit or permitholder shall be entitled to a hearing conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government **Code**.

(b) The State Fire Marshal shall revoke a flamethrowing device permit if the permitholder does not comply with the requirements of this part and the regulations adopted pursuant to this part.

12759. The State Fire Marshal shall establish fees pursuant to this part that shall be deposited in the State Fire Marshal Licensing and Certification Fund.

Title 19, California Code of Regulations
Chapter 6

STATE FIREWORKS REGULATIONS

**Title 19, California Code of Regulations
Chapter 6. Fireworks**

Article 1. Jurisdiction

§979. Jurisdiction.

For the purposes of this chapter, the California State Fire Marshall shall be the primary enforcement authority for these regulations in all state-owned or state-occupied buildings. This authority shall extend to those premises leased by the state of California.

Authority: Sections 13108(c), Health and Safety Code

Reference: Sections 13100 and 13108, Health and Safety Code

Article 2. Definitions

§980. Definitions.

(a) "A" Definitions.

(1) Aerial Shell. A cylinder or spherical cartridge containing a burst charge and pyrotechnic or non-pyrotechnic effects, a fuse, a black powder lift charge and is fired from a mortar.

(2) ASTM. The American Society of Testing and Materials, a national organization publishing standards for all types of materials and products.

(b) "B" Definitions.

(1) Barrage. A rapidly fired sequence of effects.

(2) Batten. A strip of wood to which pyrotechnic devices are attached for support.

(3) Binary Low Explosive Compounds. Special effects materials in which fuel and an oxidizer are mixed together to produce a pyrotechnic composition.

(4) Blank Cartridge. A cartridge constructed from either metal or plastic casing, with a center or rim fire primer filled with various amounts of pyrotechnic compositions measured by loads.

(5) Blasting Galvanometer. An electrical resistance measuring device designed specifically and approved for testing of electric firing circuits.

(6) Bottle Rocket. A pyrotechnic device containing a maximum of 20 grams of pyrotechnic composition, which rises into the air upon ignition. A stick is used for guidance and stability, and a burst of color or noise, or both, is produced at height of flight.

(7) Break. An individual burst from an aerial shell, producing either a visible or audible effect or both, and may consist of a single burst or multiple effects.

(8) Bullet Effect. The discharge of the pyrotechnic or explosive bullet hit.

(9) Bullet Hit. A device containing various levels and amounts of pyrotechnic composition, whose purpose is to create the illusion of a bullet impact.

(c) “C” Definitions.

(1) California Candle. Hand held heavy paper or cardboard tube emitting showers of sparks.

(2) Comet. A pyrotechnic device launched from a mortar that produces an ascending burning effect, is self-consuming, and may or may not contain a burst charge or stars.

(d) “D” Definitions.

(1) Darts. To move suddenly and swiftly from one place to another.

(2) Detonator. Any device containing a detonating charge that is used for initiating detonation in an explosive. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, detonating cord delay connectors, and nonelectric instantaneous and delay blasting caps.

(3) D.O.T. DOT means U.S. Department of Transportation.

(4) Dud. A pyrotechnic item which leaves the mortar and returns to earth without producing the intended burst or effect. See also Misfire.

(e) “E” Definitions.

(1) Electric Firing. A technique used to discharge fireworks in which an electric match or squib and a source of electric current are used to ignite fuses or lift charges.

(2) Electric Match. An electric device containing a pyrotechnic compound which ignites when sufficient current flows through the leads.

(3) Experimental High Power Rocket. Non-professional rockets which are propelled by commercially manufactured high-power solid propellant rocket motors.

(4) Experimental High Power Rocket Motor. A State Fire Marshal approved, commercially manufactured rocket propulsion device containing a solid propellant charge wherein all the ingredients are pre-mixed and which produces more than 160 Newton-seconds (36 lb.-seconds) but shall not exceed 10,240 Newton-seconds (2302.2 lb.-seconds) of total impulse.

(f) “F” Definitions.

(1) Firecracker. A device containing explosive pyrotechnic composition in an amount not to exceed 50 milligrams (.772 grains) in total pyrotechnic weight, in a fused container whose primary function is to produce an audible effect.

Note: All firecrackers are classified as “dangerous fireworks”, and pyrotechnic devices similar in construction to a “firecracker” which exceed the specified weight shall be designated explosives in accordance with Health and Safety Code Section 12000.

(2) Flash Paper. Treated paper which is extremely sensitive to heat and creates a brief flash of fire upon ignition.

(3) Flash Powder. Pyrotechnic composition intended for use in firecrackers and salutes, and often used for “flash”-type effects on stage and in productions involving special effects. Flash powder produces an audible report and a flash of light when ignited. Typical flash powder compositions contain potassium chlorate or potassium perchlorate, sulfur or antimony sulfide, and powdered aluminum.

(4) Flower Pot. A shell (not the lifting charge) that explodes at or near the bottom of a mortar blowing a shower of stars and burning material into the air.

(5) Fountain. See Gerb.

(g) “G” Definitions.

(1) Gerb. (also known as a Fountain). A device that, when ignited, emits a shower of sparks into the air at various altitudes.

(2) Ground Spinning Device. Also known as a Ground Spinner. A pyrotechnic device that discharges sparks as it spins across the surface upon which it is placed.

(h) “H” Definitions.

(1) HDPE Mortar. Also known as a High Density Polyethylene Mortar, is a mortar constructed of high density polyethylene which is certified and labeled as meeting one or more of the following ASTM standards, which are hereby incorporated by reference: ASTM D 3350, or ASTM F 714.

(i) “I” Definitions.

(1) Ignitor. An electric, chemical or mechanical device used to initiate burning or pyrotechnic or propellant materials.

(j) “J” Definitions. None.

(k) “K” Definitions. None.

(l) “L” Definitions.

(1) Lance. A thin cardboard tube packed with a color-producing pyrotechnic composition.

(2) License. “License” means any nontransferable authorization granted by the State Fire Marshal to engage in any activity regulated by this part.

(3) Licensee. “Licensee” means any person 21 years of age or older holding a fireworks license issued pursuant to Chapter 5 (commencing with Section 12570), of the Health and Safety Code.

(4) Loader. A person who places shells into mortars.

(5) Low Burst or Low Break. The result of a shell exploding below its prescribed height.

(m) “M” Definitions.

(1) Magazine Tender. Person who distributes pyrotechnic items to the loader during the show.

(2) Match. A fuse made of string or thread impregnated with black powder.

(3) Meteoric Shower. A self-contained cardboard tube mounted on a plastic base emitting a shower of stars into the air.

(4) Mines or Mine Bags. A device contained within a reusable or disposable tube, where upon ignition stars, firecrackers, salutes, whistles or other devices are propelled into the air, with the tube remaining on the ground.

(5) Misfire. A pyrotechnic item which fails to function as designed after initiation. See also Dud.

(6) Model Rocket Motor. The same as a model rocket engine, as defined in Health and Safety Code Section 12520. Model rocket motors shall not produce more than 160 Newton-seconds of total impulse power.

(7) Monitor. Person responsible for watching for pyrotechnic items which do not perform properly.

(8) Mortar. A cylinder that is used to hold and fire public display or special effects pyrotechnic items or compositions as defined in Section 999 of this subchapter.

(9) Mortar Box. Also known as a Trough. A portable wooden structure used for the placement of mortars.

(10) Mortar Rack. A wooden rack holding closely spaced HDPE or paper mortars. Mortar racks are limited to 10 tubes per individual rack.

(11) Multiple Break Shell. Aerial shell which has two or more breaks.

(12) Muzzle Burst. The process of an aerial shell breaking or bursting just as it leaves the mortar, scattering stars and burning material.

(n) “N” Definitions.

(1) N.F.P.A. The National Fire Protection Association.

(2) Non-metallic Mortar. See HDPE and Paper Mortar definition.

(o) “O” Definitions. None.

(p) “P” Definitions.

(1) Pan Type Mortar. A shallow metal container that is used to hold and fire special effect pyrotechnic compositions.

(2) Paper Mortar. A mortar constructed of spiral or convolute wound paper or chipboard.

(3) Party Popper. “Party Popper” also known by other names such as Champagne Party Poppers, Party Surprise Popper and Hot Shot Poppers, is a pyrotechnic device which contains less than 0.25 grain of pyrotechnic composition per unit load, designed to be held in the hand and when fired propels soft paper, cloth inserts or other similar fill material into the air.

(4) Pigeons. Also known as line rockets. Pyrotechnic items using mechanical devices to control the effect of flight movement.

(5) Public Display of Fireworks. “Public display of fireworks” means an entertainment feature where the public or a private group is admitted or permitted to view the display or discharge of dangerous fireworks, as defined in Section 12505 of Health and Safety Code.

(q) “Q” Definitions. None.

(r) “R” Definitions.

(1) **Report.** A detailed written account of all events involving pyrotechnic materials, devices, and operations in which a fire, injury, or death occurs, or in which any violation of the laws or regulations takes place.

(2) **Retailer.** Any person who, at a fixed place of business, sells, transfers, or gives fireworks to a consumer or user.

(3) **Roman Candle.** A heavy paper or cardboard tube containing pellets of pyrotechnic composition which, when ignited, are expelled into the air at several-second intervals.

(s) “S” Definitions.

(1) **Salute.** An aerial shell as well as other pyrotechnic items whose primary effects are detonation and flash of light.

(2) **Set Piece.** Also known as ground display piece, mechanical piece. A pyrotechnic device or series of devices that while on the ground or elevated produces a visual and/or audible effect. These devices may employ fountains, roman candles, wheels, and lances.

(3) **Shunt.** A deliberate short-circuit of an electrically fired pyrotechnic device or a means contained within its firing system to protect it from accidental ignition by extraneous electricity.

(4) **Single Break Shell.** Aerial shell having one or more effects within a cylindrical or spherical casing.

(5) **Snap Cap.** Also known by other names such as, but not limited to, Snappers, Pop Pop Snappers, Fun Snaps and Bang Snaps. It is a pyrotechnic device that typically contains less than .20 grams, but shall not contain more than .25 grams, of gravel impregnated with not more than one milligram of pyrotechnic composition. Each unit consists of a small, roughly spherical paper parcel, approximately one-quarter (1/4) inch in diameter with a twisted paper tail. Each unit, when dropped against a hard surface, produces a small, toy cap-like report.

Note: Studies are conducted annually by the Office of State Fire Marshal which will determine whether or not there are adverse consequences from the regulation of snap caps.

(6) **Soft Detonator.** A detonator in which the explosive or pyrotechnic material is encased in a non-metallic container.

(7) Sparkler. A Stick or wire coated with a pyrotechnic composition that produces a shower of sparks upon ignition.

(8) Squib. See Electric Match. See also Detonator and Soft Detonator.

(t) "T" Definitions.

(1) Travel. To move from point of ignition either vertically or horizontally.

(2) Trough. Also known as a Mortar Box. A portable wooden structure used for the placement of mortars.

(u) "U" Definitions. None.

(v) "V" Definitions. None.

(w) "W" Definitions.

(1) Wheel Driver. A heavy paper or cardboard tube emitting a shower of sparks from a very small orifice, similar to a propellant motor.

(2) Within This State. "Within this state" means all territory within the boundaries this state.

(x) "X" Definitions. None.

(y) "Y" Definitions. None.

(z) "Z" Definitions. None.

Article 3. Licenses

§981. General.

(a) No person shall engage in any type of fireworks activities without having submitted an application for and having obtained a license from the State Fire Marshal in accordance with the provisions of this chapter. Licenses shall be processed in accordance with Title 19, California Code of Regulations, Section 3.33.

Exceptions:

(1) Licensed Pyrotechnic Operators Basic Commercial, Restricted Commercial and Rockets, First Class may employ unlicensed assistants.

Unlicensed assistants shall perform only when under the direct, immediate and constant supervision of the licensee when handling fireworks and pyrotechnic compositions.

(2) Licensed special effects and theatrical pyrotechnicians may employ unlicensed assistants. Unlicensed assistants shall perform only when under the direct, immediate and constant supervision of the licensee when handling fireworks and pyrotechnic compositions.

(3) A license shall not be required for the use or discharge of safe and sane fireworks.

Authority: Sections 12552, Health and Safety Code

Reference: Sections 12552, Health and Safety Code

§981.1. Cause for Denial.

The use of any false or misleading statement or misrepresentation offered or used to secure any fireworks license, permit, classification, registration, or any other official fireworks document is a violation of these regulations, and shall be cause for denial of the license, permit, classification, registration or other official fireworks document.

All fireworks licensees as set forth in this chapter shall be prohibited from giving or permitting any other person to use such license for any purpose whatsoever.

Any license issued under this chapter found to be altered shall be confiscated by the authority examining the license. The authority confiscating the license shall notify the State Fire Marshal immediately, and shall cooperate with the State Fire Marshal in all matters relating to an investigation of the incident.

Authority: Sections 12552, Health and Safety Code

Reference: Sections 12552, Health and Safety Code

§981.2. Misuse or Alteration of License.

All fireworks licensees as set forth in this chapter shall be prohibited from giving or permitting any other person to use such license for any purpose whatsoever.

Any license issued under this chapter found to be altered shall be confiscated by the authority examining the license. The authority confiscating the license shall notify the State Fire Marshal immediately, and shall cooperate with the State Fire Marshal in all matters relating to an investigation of the incident.

Authority: Sections 12552, Health and Safety Code
Reference: Sections 12583 and 12600, Health and Safety Code

§981.3. License Fees.

(a) Every license fee required in accordance with this section shall be paid by check or money order made payable to the "CDF/State Fire Marshal."

(b) Every required fee shall be paid at or mailed to the office location designated by the State Fire Marshal.

(c) The original and annual renewal fee for a license shall be for the fiscal year or portion thereof beginning July 1 and ending June 30 of the following year, except that the fee for a Retail License shall be for the period of noon on the 28th of June through noon on the 6th of July, of the same calendar year.

(d) The original and annual renewal fees shall be as follows:

- (1) Manufacturer \$1500.00
- (2) Wholesaler \$3000.00
- (3) Importer & Exporter \$4500.00
- (4) Retailer \$50.00
- (5) Public Display (special) \$350.00
- (6) Public Display (limited) \$200.00
- (7) Public Display (general) \$1,500.00
- (8) Pyrotechnic Operator:
 - Basic Commercial \$125.00
 - Restricted Commercial \$50.00
 - Rockets, 1st Class \$50.00
 - Rockets, 2nd Class \$50.00
 - Rockets, 3rd Class \$50.00
 - Special Effects, 1st Class \$250.00
 - Special Effects, 2nd Class \$200.00
 - Special Effects, 3rd Class \$100.00
 - Theatrical \$200.00
 - Theatrical Trainee \$100.00
 - Performer \$125.00

(9) Manufacture, import, export, or wholesale, or any combination thereof; agricultural and wildlife fireworks \$500.00

(10) Manufacture, import, export, or wholesale, or any combination thereof; model rocket motors \$500.00

(11) Registration or classification fee for each model of emergency signaling device \$50.00

(12) Party Popper/Snap Cap Distributor Permit \$750.00

(13) Manufacture, import, export, wholesale, or any combination thereof high power or experimental high power rockets and motors \$1500.00

(14) Retailer (high power rocket) \$500.00

(e) The original registration and classification fees shall be as follows:

(1) Original registration and classification fee for each

Model of Model rocket motor, high power rocket or motor, safe and sane, party popper, snap caps/ snappers, agricultural/wildlife or exempt fireworks \$50.00

(f) Required fees shall be submitted jointly with the appropriate application. Such fees are non-refundable once the license has been issued.

Authority: Sections 12552 and 12631-12633, Health and Safety Code
Reference: Sections 12552 and 12630-12633, Health and Safety Code

§981.4. Duplicate License.

In the event a valid license is lost or destroyed, a duplicate license will be issued upon written notice from the licensee to the State fire Marshal and the submission of a \$25.00 fee.

Authority: Sections 12552 and 12580, Health and Safety Code
Reference: Sections 12630, 12631, and 12632, Health and Safety Code

§981.5. License Scope.

(a) Model Rockets. A Model Rocket License authorizes the manufacture, import, export or wholesale or any combination thereof.

(b) Pyrotechnic Operator. A Pyrotechnic Operator's License authorizes and places the responsibility for the handling, supervision and discharge of any fireworks item or pyrotechnic device and establishes that the operator is responsible for the training of his or her assistants in the safe handling, supervision, and discharge of these items and devices, in accordance with the following:

(1) Pyrotechnic Operator--Unrestricted may conduct and take charge of all fireworks activities in connection with every kind of public fireworks display, whether commercial entertainment, experimental and other types of rockets, special effects in motion picture, theatrical and television production.

(2) Pyrotechnic Operator--Basic Commercial may conduct and is restricted to all fireworks activities in connection with a commercial fireworks public display, including the determination that all mortars, set pieces, rocket launchers and rockets are properly installed and that the proper safety precautions have been taken to insure the safety of persons and property. Such operator shall have charge of all activities directly related to handling, preparing and firing all fireworks at the public display, including the fixing of lifting charges and quick match as needed for aerial shells.

(3) Pyrotechnic Operator--Restricted Commercial may conduct and is restricted exclusively to the use and discharge of firecrackers and the use of other exempt fireworks in religious ceremonies.

(4) Pyrotechnic Operator--Rockets First Class may conduct and is restricted to all activities in connection with research experiments, production, transportation, fuel loading and launching of all types of experimental rockets. Such operator shall also be responsible for the actions and conduct of all assistants. Operators licensed under subsection (b) are also required to obtain a local permit from the authority having jurisdiction prior to all launches.

(5) Pyrotechnic Operator--Rockets Second Class may conduct and is restricted to all activities in connection with research experiments, production, transportation, fuel loading and launching of all types of solid fuel experimental rockets only. Such operator shall also be responsible for the actions and conduct of all assistants. Operators licensed under subsection (b) are also required to obtain a local permit from the authority having jurisdiction prior to all launches.

(6) Pyrotechnic Operator--Rockets Third Class may purchase, transport, store, and launch high power rockets. Experimental high power rocket motors may only be imported, exported, and wholesaled by individuals or companies holding valid import, export, or wholesale licenses. Pyrotechnic Operators--Third Class may only purchase high powered rocket motors from licensed wholesalers. Operators licensed under subsection (b) are also required to obtain a local permit from the authority having jurisdiction prior to all launches.

(7) Pyrotechnic Operator--Special Effects First Class may conduct and is restricted to the use, preparation for transportation and the preparation and use of all types of fireworks and special effects pyrotechnics, for the sole purpose of producing a visible or audible effect where and when such use is a necessary part of motion picture, television, theatrical or operatic production, as permitted by the fire authority having jurisdiction.

(8) Pyrotechnic Operator--Special Effects Second Class may conduct and is restricted to the use of special effects, the loading of blank cartridges, colored fire, flash paper, smoke composition, the preparation and use of binary A and B Flash composition and such other fireworks of whatever kind and class as may be permitted by the authority having jurisdiction, under a special permit in connection with television and motion picture production.

(9) Pyrotechnic Operator--Special Effects Third Class authorizes the loading of blank cartridge shells, and use of special effects when under the direct supervision and control of a Pyrotechnic Operator--Special Effects First or Second Class.

(10) Pyrotechnic Operator--Theatrical authorizes the use of special effects, blank cartridges, colored fire, flash paper, flash, smoke composition, and the preparation and use of binary A and B Flash composition in stage or theatrical productions only.

(11) Pyrotechnic Operator--Theatrical Trainee authorizes the conducting of procedures permitted a Pyrotechnic Operator--Theatrical when under the direct supervision and control of a licensed Pyrotechnic Operator--Theatrical.

(12) Pyrotechnic Operator--Performer is restricted to persons who perform before an audience, directly or indirectly, and may include magicians, comedians, still photographers, and others whose primary interest is in other than pyrotechnics. Such license is restricted to the use of blank cartridges, colored fire, flash paper, sparklers, and smoke composition in connection with the production of theatricals and operas before live audiences in theaters, opera houses, television studios, night clubs, and similar occupancies, or by the use of a still photographer.

(c) Separate License Not Required. A separate license shall not be required of licensed manufacturers, wholesalers, or importer-exporter to manufacture, wholesale, import or export agricultural and wildlife fireworks or model rocket engines.

(d) Explosive Materials Not Included in Scope of License. The license scope as defined in this section is restricted to the use of materials defined as “fireworks” (as defined in Health and Safety Code Section 12511) and in no way confers authority for the use or discharge of explosive materials defined in Health and Safety Code Sections 12000, et seq.

Authority: Sections 12552 and 12580, Health and Safety Code

Reference: Sections 12630, 12631, and 12632, Health and Safety Code

Article 4. Permits

§982. Local Permit, Application For.

(a) When applying for a permit under Health and Safety Code section 12640(e), an applicant shall submit the following information and evidence to the authority having jurisdiction:

(1) The name of the organization sponsoring the display, together with the names and license numbers of persons actually in charge of the display.

(2) The date and time of day the display is to be held.

(3) The exact location planned for the display.

(4) The size and number of all fireworks to be discharged including the number of set pieces, shells, and other items. Shells shall be designated by diameter specifying single, multiple break or salute.

(5) The manner and place of storage of all fireworks prior to, during, and after the display.

(6) Diagram of the grounds on which the display is to be held showing the point at which the fireworks are to be discharged, the location of all buildings, roads, and other means of transportation, the lines behind which the audience will be restrained, the location of all nearby trees, telegraph or telephone lines, or other overhead obstruction.

(7) Proof that satisfactory workers' compensation insurance is carried for all employees in compliance with Labor Code Section 3700.

(8) If the permit is for a public display or special effects, documentary proof of conformance with sections 12610 and 12611, Health and Safety Code.

(9) A State Fire Marshal's license for the public display of fireworks, under Health and Safety Code Sections 12575, 12576, or 12577. No permit for a public display of any type shall be granted unless a public display license general, special, or limited has been first obtained from the State Fire Marshal.

(10) The name and license number of the wholesaler who supplied all items used in the display.

(b) Permittee shall be responsible for compliance with the provisions under which a public display permit has been granted.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

Article 5. Qualifications-Examination and Investigation

§984. General.

(a) Test and Examination. Every applicant for a pyrotechnic operator's license shall take and pass a written examination administered by the State Fire Marshal in accordance with the provisions of this chapter. The applicant shall submit evidence attesting to the qualifications and experience required by this Article for the type of license for which application has been submitted.

(1) Pyrotechnic Operator--Unrestricted shall require a minimum amount of experience as indicated for each of the following types of licenses. Such experience shall be in the actual discharge of fireworks and pyrotechnic devices for the types indicated.

(A) Pyrotechnic Operator--Basic Commercial 2 years.

(B) Pyrotechnic Operator--Rockets First Class 2 years.

(C) Pyrotechnic Operator--Special Effects First Class 2 years.

Under the provisions of this section, not less than 6 years total experience is required.

(2) Pyrotechnic Operator--Basic Commercial shall require a minimum of 2 years of active work as an unlicensed assistant to either a licensed Pyrotechnic Operator--Unrestricted, or Basic Commercial. This time requirement may be reduced by 1 year through the successful completion of a State Fire Marshal approved training course or through exceptional work experience as evidenced by log entries or work records. Notwithstanding the 2 year requirement, the applicant shall have participated in the firing of not less than 8 different public displays.

(3) Pyrotechnic Operator--Special Effects First Class shall require a minimum of 2 years of active work as a Pyrotechnic Operator--Special Effects Second Class. This time requirement may be reduced by 1 year through the successful completion of a State Fire Marshal approved training course or through exceptional work experience as evidenced by log entries or work records.

(4) Pyrotechnic Operator--Special Effects Second Class shall require a minimum of 2 years of active work as a Pyrotechnic Operator--Special Effects Third Class. This time requirement may be reduced by 1 year through the successful completion of a State

Fire Marshal approved training course or through exceptional work experience as evidenced by log entries or work records.

(5) Pyrotechnic Operator--Special Effects Third Class. No experience required.

(6) Pyrotechnic Operator--Theatrical shall require a minimum of 2 years of active work as a Pyrotechnic Operator--Theatrical Trainee. This time requirement may be reduced by 1 year through the successful completion of a State Fire Marshal approved training course or through exceptional work experience as evidenced by log entries or work records.

(7) Pyrotechnic Operator--Theatrical Trainee. No experience required.

(8) Pyrotechnic Operator Performer. No experience required.

(b) Qualifications. Adequate qualification for the issuance of the requested license shall be determined by the State Fire Marshal. It shall be incumbent upon the applicant to present to the State Fire Marshal evidence of such qualifications which may include a physical demonstration of knowledge and ability.

(c) Experience. The required experience for issuance of a pyrotechnic operator's license shall be in accordance with this section. In addition, applications shall be accompanied by the names and complete addresses of not less than five persons as reference who are not a relative, and who can attest to the applicant's experience, integrity and training. The references shall be licensed pyrotechnic operators of a class equal to or greater than the class applied for and shall have been licensed for at least one year.

Authority: Section 12552, Health and Safety Code

Reference: Sections 12552,12580, 12603 and 12607, Health and Safety Code

§984.1. Examinations.

The written examination required for pyrotechnic operators shall consist of at least three parts, one pertaining to laws relating to fireworks, one pertaining to regulations relating to fireworks and one relating to the practices and procedures of the license scope.

Authority: Section 12552, Health and Safety Code

Reference: Sections 12552 and 12580, Health and Safety Code

§984.2. Examination Process.

(a) To satisfactorily pass the written examination, the applicant must obtain a minimum grade of seventy percent (70%) in each part.

(b) Every person taking an examination for pyrotechnic operator shall have the right to contest the validity of individual questions of such examination.

(c) Every objection as to the validity of individual questions of an examination shall be made in writing within 5 days after taking said examination. Objections shall state the reasons for each objection.

(d) The decision made by the State Fire Marshal and the action taken shall be reflected in all future examinations but shall not affect the grades established in past examinations.

(e) The decision as to the action to be taken on the submitted objection(s) shall be by the State Fire Marshal and such decision shall be final.

(f) Any applicant failing the examination may reapply and take another examination not less than 15 days from the date of the previous examination.

(g) Applicants applying to take repeat examination shall file a new application. An additional fee is not required in those instances where the applicant has taken a test and failed it.

(h) The State Fire Marshal may require a reexamination of any licensee. The examination may be of any type permitted by these regulations. A fee shall not be required for a reexamination.

(i) Any applicant found using any extrinsic aids during the examination shall automatically fail the examination, and shall forfeit admission to future examinations for a period of one year.

Authority: Section 12552, Health and Safety Code

Reference: Sections 12552, 12580, 12589, Health and Safety Code

984.3. Application Period.

An original pyrotechnic operator's license shall not be issued for the month of June of any fiscal year unless the application has been received in the Office of the State Fire Marshal on or before the preceding May 15.

Authority Section: 12552, Health and Safety Code

Reference Section: 12552, 12580, 12589, 12595, 12597, Health and Safety Code

984.4. Investigation and Letters of Reference.

Applicants for a pyrotechnic operator's license are subject to an investigation by the State Fire Marshal. The investigation is intended to determine, but will not be limited to, compliance with state laws and regulations, and competency of applicant to perform in a safe manner. To assist in this investigation five letters of reference in conformance with Section 984(c) shall be submitted with this application. Additionally, a review of the applicant's log or journal detailing the kind of materials used, the quantity, how fired, date, time and location, and name and license number of the supervising pyrotechnician shall be conducted.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12552, 12580, 12587, 12590, 12615 Health and Safety Code

984.5. Renewal Applications.

Application for renewal of a license shall be made by the person to whom the license was issued. In all cases, applicants for license renewal shall pass an examination as required for an original application in accordance with the provisions of this chapter every four years.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

Article 6. Classification of Fireworks

§986. Classification.

(a) Fireworks or pyrotechnic devices that are to be used or sold for use in this state and found by the State Fire Marshal to come within the definition of “party poppers”, “snap caps”, “safe and sane”, “agricultural and wildlife”, “model rocket motors”, “high power rocket motors”, “emergency signaling device” or “exempt” fireworks shall be classified as such by the State Fire Marshal.

Exception: Special Effects items developed and compounded on location for single time usage.

(b) The classification of an item shall not be construed as conferring classification to any similar item without the approval of the State Fire Marshal. The trade name of an item shall not be changed without notifying the State Fire Marshal 30 days prior to such change.

Authority: Sections 12552 and 12553, Health and Safety Code
Reference: Sections 12560-12569 and 12571, Health and Safety Code

§986.1. Sparklers.

Sparklers, which are defined as a stick or wire coated with a pyrotechnic composition that produces a shower of sparks upon ignition, are classified as dangerous fireworks under the authority of Health and Safety Code section 12505(k).

Authority: Section 12552, Health and Safety Code
Reference: Sections 12505(k), 12552, 12560 and 12561, Health and Safety Code

§986.2. Test Samples.

(a) Undischarged samples of each item of fireworks which are to be examined, classified and labeled as “Party Poppers”, “Snap Caps,” or “safe and sane” must be submitted to the State Fire Marshal for testing. The number of samples necessary shall be determined by the State Fire Marshal and in no case shall be less than ten (10).

(b) Undischarged samples of each item which is to be examined, classified, and labeled as “agricultural wildlife”, “emergency signaling devices”, “model rocket engine”, and “high-power rocket engine” shall be submitted to the State Fire Marshal for testing. The number of undischarged samples necessary for each test shall be determined by the State Fire Marshal and in no case shall be less than three (3).

Authority: Sections 12552 and 12553 Health and Safety Code

Reference: Sections 12560-12569 and 12671, Health and Safety Code

§986.3. Chemical Analysis.

The request for classification of all fireworks as “safe and sane” fireworks or any item as a “party popper” or “snap caps”, shall be accompanied by a qualitative chemical analysis showing every chemical and substance used in the manufacture of such fireworks, “party poppers” or “snap caps”. Such qualitative analysis shall be made by the manufacturer, and shall include the total pyrotechnic weight of each item.

Authority: Sections 12552 and 12553 Health and Safety Code

Reference: Sections 12560-12569 and 12671, Health and Safety Code

§986.4. Re-Tests.

Licensees shall advise the State Fire Marshal of any change in quality, content, or construction of any fireworks article classified by the State Fire Marshal and shall resubmit such articles for re-test and classification.

Authority: Sections 12552 and 12553, Health and Safety Code

Reference: Sections 12560-12569 and 12671, Health and Safety Code

§986.5. Revocation.

The classification may be revoked by the State Fire Marshal if he or she finds that the material being marketed is not the same as that submitted for classification or when such fireworks or their labeling does not conform to the provisions of this chapter.

Authority: Sections 12552 and 12553, Health and Safety Code

Reference: Sections 12560-12569 and 12671, Health and Safety Code

§986.6. Specifications for Safe and Sane Fireworks.

The provisions of this section shall apply to all handle goods, stick, dowel, spike and California candle fireworks having a stick dowel or inside diameter greater than 1/8 inch and other devices as noted.

Handle goods are exempt from compliance with the provisions of subsections (a), (d) and (e) of this section if they incorporate all of the following features: (1) a soft, crushable type paper tube, (2) an inside diameter of 3/8 inch or less, (3) 3 inches or less of combustible chemical composition, and having an overall length not exceeding 12 inches without any choke or other muzzle restriction.

(a) The chemical composition tubes or cases of all stick or handle fireworks items, whether spike or dowel, except flares, shall not exceed 9 inches in length or have an inside diameter greater than 5/8 inch and shall be convolute or spiral wound of chip board or other paper having equivalent strength and shall be well glued. The above dimensions do not include the stick, dowel or tubular handles of such items.

The chemical composition tubes in all fireworks items shall be sealed in a manner that prevents leakage of the pyrotechnic composition during shipping, handling, or normal operation and shall be constructed in a manner to allow functioning without burnout or blowout.

(b) The use of any choke or other muzzle restriction in any stick or handle fireworks item, whether spike or dowel or California candle is prohibited.

(c) Compositions in all devices shall be designed and manufactured to prevent loosely compacted charges. Pyrotechnic compositions shall not discharge a flame longer than 8 inches or throw sparks further than 10 feet from the composition tube muzzle. Handle goods shall not throw sparks further than 6 feet from the composition tube muzzle.

(d) Clay base shall have a minimum finished thickness of 1/2 inch and shall be formed in place inside the tube. In no case shall the final composition charge and the clay be formed in a combined operation. All clay used as clay base shall be sufficiently moistened to insure permanent effective adhesion to the inside of the tube or case.

(e) Fireworks devices which are intended to be hand-held and are so labeled shall incorporate a handle at least 4 inches in length. Handles shall remain firmly attached during transportation, handling and full operation of the device, or shall consist of an integral section of the device at least 4 inches below the pyrotechnic chamber.

Spikes and dowels shall be inserted into the chemical composition tubes a minimum distance not less than 25% of the length of tubes 6 inches or less in length and not less than 2 inches into tubes over 6 inches long. They shall be cemented firmly in place against the clay base. There shall be no void space within the chemical composition tube.

Spikes provided with fireworks devices shall protrude at least 2 inches from the base of the device and shall have a blunt tip not less than 1/8 inch in diameter or 1/8 inch square.

(f) All fuses of every type and kind of fireworks items shall be securely fixed in contact with the composition charge to insure against accidental loss. Each fuse shall be capable of either supporting the combined weight of the fireworks item plus eight ounces dead weight, or double the weight of the item without separation from the fireworks article.

Fuses on all items shall burn for not less than 3 seconds but not more than 6 seconds. Fuses on all items shall be treated or coated in such a manner as to reduce the possibility of side ignition. The fuse on devices such as "ground spinners" that require a restricted orifice for proper thrust and contain less than 6 grams of pyrotechnic composition are exempt from this requirement.

Fireworks items sold or offered for sale at retail which are not enclosed in sealed packages, shall have their fuses or other igniting means covered in a manner approved by the State Fire Marshal to provide reasonable protection from unintentional ignition.

(g) All pyrotechnic devices having a base shall provide stable support to maintain the item in a vertical position when firing. When bases are added to the device, they shall be firmly glued in place.

The base or bottom of fireworks devices having a base or fireworks devices that operate in a standing upright position shall have the minimum horizontal dimensions or the diameter of the base equal to at least one-third (1/3) of the height of the device including any base or cap affixed thereto.

(h) The appearance of any fireworks items resembling those articles classified by statute as "dangerous fireworks" shall constitute sufficient grounds for their classifications, by the State Fire Marshal, as "dangerous fireworks." Special reference is intended, though not by way of limitation, to cherry bombs and sky rockets and other fireworks which normally explode or rise in the air during discharge.

(i) Pinwheels shall be limited to a maximum overall diameter of 15 inches, shall be substantially constructed and all driver gerbs, firepots and other elements shall be firmly fixed to the wheel.

Drivers shall be securely attached to the device so that they will not come loose in transportation, handling, and normal operation. Wheel devices intended to operate in a fixed location shall be designed in such a manner that the axle remains attached to the device during normal operation.

(j) Smoke devices shall conform to the following:

(1) Smoke devices shall be so constructed that they will neither burst nor produce external flame (excluding the fuse and first fire upon ignition).

(2) Smoke devices shall not be of such color or configuration so as to be confused with dangerous fireworks, such as firecrackers or cherry bombs.

(3) Smoke devices shall not incorporate plastic as an exterior material if the pyrotechnic composition would come in direct contact with the plastic.

Authority: Sections 12552 and 12553, Health and Safety Code

Reference: Sections 12560-12569 and 12671, Health and Safety Code
Section 1507.4, CFR 16, Code of Federal Regulations

§986.7. Party Poppers.

(a) General. Party Poppers, as defined in Section 980, may be sold at retail outlets without requirement of a state fireworks retailer license or other retail sales restrictions so long as these Party Poppers are units of a particular manufacturer and design which have been classified by the Office of State Fire Marshal.

(1) Only entities or individuals maintaining a valid Office of State Fire Marshal importer/exporter's license may import Party Poppers into California and may sell Party Poppers only to entities or individuals maintaining a valid Office of State Fire Marshal wholesaler's license.

(2) Only entities or individuals maintaining a valid Office of State Fire Marshal's wholesaler's license or Party Popper/Snap Cap Distributor permit may sell Party Poppers to a retail outlet. Entities or individuals maintaining a Party Popper/Snap Cap Distributor Permit may purchase Party Poppers only from an individual or entity maintaining a valid Office of State Fire Marshal wholesaler's license and may sell Party Poppers only to retail outlets.

(3) Only entities or individuals maintaining either a valid Office of State Fire Marshal wholesaler's or importer/exporter's license or Party Popper/Snap Cap Distributor Permit may transport, or cause to be transported for sale, Party Poppers within California.

(4) All wholesaler licenses and Party Popper/Snap Cap Distributor permittees must file with the Office of State Fire Marshal by the close of the month immediately following each quarter, a list of the names and addresses of all retail outlets to whom they sold Party Poppers in the preceeding quarter. Retail outlets holding valid Office of State Fire Marshal retail sales licenses for the sale of Safe and Sane fireworks within the State for the period of 12:00 noon on the 28th of June through 12:00 noon on the 6th of July of that calendar year, as required by Health and Safety Code Section 12599, need not appear on this list filed with the Office of State Fire Marshal as required by this Section.

(b) In addition to the tests required by this Section, Party Poppers shall conform to the following:

(1) The device shall contain not more than 0.25 grains of explosive.

(2) The device shall not contain any materials specified in Section 12505 of the Health and Safety Code.

(3) The tube casing or body shall be constructed so as to eliminate any emission into the hand of the user.

(4) The streamers or other fill material shall be flame retardant when tested in accordance with this section.

(5) Every individual party popper item shall bear the classification label of the State Fire Marshal, including the manufacturer's and importer/exporter's registration number. The words "party poppers" shall appear in legible print on such label.

(6) The body of every party popper shall have, in legible print, operating instructions and warning labels as may be required by the State Fire Marshal.

(c) The testing of Party Poppers shall require the submission of a minimum of ten (10) samples. The streamers or other fill material from all of the ten (10) samples shall be arranged in a loose pile and subjected to the flame from a common paper match for not less than 5 seconds. The test material shall not continue to burn or smolder for more than 2 seconds after the match has been removed. If the streamers or other fill material fail the above tests, the device shall be rejected.

Authority: Sections 12552 and 12553, Health and Safety Code

Reference: Sections 12505, 12560-12569 and 12671, Health and Safety Code

§986.8. Snap Caps.

(a) General. Snap Caps as defined in Section 980, may be sold at retail outlets without requirement of a state fireworks retailer license or other retail sales restrictions so long as these Snap Caps are units of a particular manufacturer and design which have been classified by the State Fire Marshal for testing and classification in accordance with this Section. Only entities or individuals maintaining a valid Office of State Fire Marshal importer/exporter's license may import Snap Caps into California and may sell Snap Caps only to entities or individuals maintaining a valid Office of State Fire Marshal wholesaler's license.

Only entities or individuals maintaining a valid Office of State Fire Marshal wholesaler's license or Party Popper/Snap Cap Distributor permit may sell Snap Caps to a retail outlet. Entities or individuals maintaining a Party/Snap Cap Distributor Permit may purchase Snap Caps only from an individual or entity maintaining a valid Office of State Fire Marshal wholesaler's license and may sell Snap Caps only to retail outlets.

Only entities or individuals maintaining either a valid Office of State Fire Marshal wholesaler's or importer/exporter's license or Party Popper/Snap Cap Distributor Permit may transport, or cause to be transported, for sale, Snap Caps within California.

All wholesaler licenses and Party Popper/Snap Cap Distributor permittees must file with the Office of State Fire Marshal by the close of the month immediately following each quarter, a list of the names and addresses of all retail outlets to whom they sold Snap Caps in the preceding quarter. Retail outlets holding valid Office of State Fire Marshal retail sales licenses for the sale of Safe and Sane fireworks within the State for the period of 12:00 noon on the 28th of June through 12:00 noon on the 6th of July of that calendar year, as is required by Health and Safety Code Section 12599, need not appear on this list filed with the Office of State Fire Marshal as required by this Section.

(b) In addition to the tests required by this Section, Snap Caps shall conform to the following:

- (1) Each device typically contains less than 0.20 grams, but shall not contain more than 0.25 grams, of gravel impregnated with not more than one milligram of pyrotechnic composition.
- (2) Each device shall not contain any prohibited materials specified in Section 12505 of the Health and Safety Code.
- (3) Each device shall be constructed of a paper parcel which shall be flame retardant when tested in accordance with this Section.
- (4) The packaging for these devices shall bear the classification label of the State Fire Marshal, including the manufacturer's and importer/exporter's registration numbers. The words "Snap Caps/Snappers" shall appear in legible print on such label.
- (5) The packaging for these devices shall have, in legible print, operating instructions and warning labels as may be required by the State Fire Marshal.

(c) The testing of Snap Caps shall require the submission of a minimum of ten (10) Samples. The paper material from all of the ten (10) samples shall be arranged in a loose pile and subjected to the flame from a common paper match for not less than five (5) seconds. The test material shall not continue to burn or smolder for more than two (2) seconds, after the match has been removed. If the paper material fails the above test, the device shall be rejected.

986.9. Similar Devices.

A firecracker, as defined in Section 980(f)1, which exceeds 50 milligrams (.772 grains) in net pyrotechnic composition weight shall be classified as explosives in accordance with Health and Safety Code Section 12000.

Authority: Sections 12552, 12553, Health and Safety Code

Reference: Sections 12505(b) and (k), 12511, 12540, 12560, Health and Safety Code

Article 7. Seal of Registration and Labeling

§987. Seal of Registration, Description.

(a) The State Fire Marshal's Seal of Registration required by this chapter shall conform to the provisions of this article. The Seal of Registration shall be applied to all classified fireworks and pyrotechnic devices by a licensed manufacturer, importer, exporter or wholesaler, and shall indicate the classification assigned by the State Fire Marshal or any State Fire Marshal approved laboratory.

(b) The licensee registration number shall appear in the boxes below the seal as illustrated in this article.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12567 and 12568, Health and Safety Code

987.1. Unlawful Use.

No person or concern shall produce, reproduce or use the Seal of Registration in any manner or for any purpose except as provided in this chapter.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12567, 12568, Health and Safety Code

987.2. Permissive Use.

(a) Licensed manufacturers, importers, exporters, or wholesalers may, after review by the State Fire Marshal, use the Seal of Registration bearing their license registration number for any of the following:

- (1) Printed matter including advertising and copy for publication.
- (2) Letterhead, personal cards and similar stationery.
- (3) Stencils for any of the foregoing.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12502, 12618, Health and Safety Code

§987.3. Reproduction.

No person shall reproduce the fireworks Seal of Registration unless the seal reproduction conforms to the approved copy as issued at the time the license and registration number is granted. No alteration shall be made to the original or copy, or to any reproduction of the Seal of Registration unless approved by the State Fire Marshal.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12502 and 12618, Health and Safety Code

987.4. Registration Numbers.

Before reproduction of the Seal of Registration, there shall be inserted in the box at the bottom of the reproduction, the registration number assigned by the State Fire Marshal to designate the category of the licensee. The category shall be designated by the capital letter preceding the registration number as follows: "M" for manufacturing, "I/E" for importer/exporter, "W" for wholesaler. The designation for model rockets and signaling devices shall be as follows: "MR" for model rockets, "HPR" for high-power rocket motors, "L" for land signaling devices, "S" for sea signaling devices and "A" for air signaling devices. Signaling devices intended for more than one function shall use all of the appropriate letters.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12502, 12618, Health and Safety Code

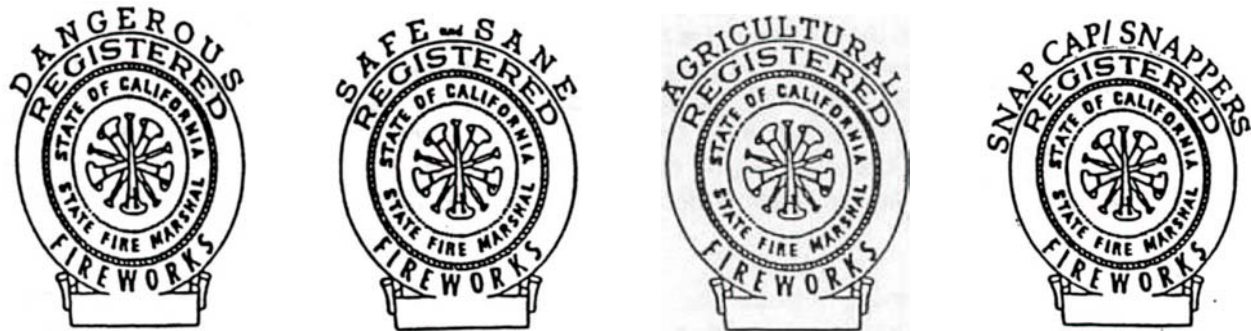
987.5. Cease Use Order.

No person or concern shall continue use of the Seal of Registration in any manner or for any purpose after receipt of a notice in writing from the State Fire Marshal to discontinue such use.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12502, 12618, Health and Safety Code

§987.6. State Fire Marshal's Seal of Registration.

The Seal of Registration shall appear in a format illustrated by the following samples below:



1. Enter one of the appropriate classification titles above the seal (see preceding samples) as listed below:

- (a) Dangerous
- (b) Safe and Sane
- (c) Agricultural/Wildlife
- (d) Model Rocket Motor
- (e) Emergency Signaling Device (L), (S), or (A)
- (f) Exempt
- (g) Party Popper
- (h) High Power Rocket Motor
- (i) Snap Caps/Snappers

2. Enter the Office of State Fire Marshal manufactures registration number in the box at the bottom of the seal. The seal that must appear on all Party Poppers and the seal that must appear on all packaging for all Snap Caps must also include the Office of State Fire Marshal importer/exporter's registration number.

3. On or before May 15 of the first year an importer intends to distribute in California, which ever comes later, an importer of Safe and Sane fireworks shall be required to file with the Office of State Fire Marshal in Sacramento, a notarized list of all Safe and Sane firework devices which: (1) they have previously submitted for testing and which have been classified as Safe and Sane by the Office of State Fire Marshal; and (2) indicate by placing an asterisk(*) before the name of each Safe and Sane firework device they intend to distribute in California for retail sale between June 28th and July 6th of that year.

On or before May 15 of each year thereafter, each importer shall be required to file with the Office of State Fire Marshal in Sacramento, a notarized list of all Safe and Sane firework devices they intend to distribute in California for retail sales between June 28th and July 6th of that year including all new Safe and Sane firework devices which have been submitted for testing and which have been classified as Safe and Sane by the Office of State Fire Marshal since that importer filed its first list with the Office of State Fire Marshal in accordance with this Section.

These lists must include the name and address of the importer and the importer/exporter's registration number. The devices on these list must be segregated by type of device [i.e., cone fountains, base fountains, wheels, smoke items, ground spinners, hand-held items, and other devices which have been classified as Safe and Sane by the Office of State Fire Marshal]. These firework devices must be listed by the name as it appears on each item and within each firework device category, these items must be segregated into two subcategories: (1) those items to which this importer has exclusive trademark and/or distribution rights; and (2) those items to which this importer does not have exclusive trademark and/or distribution rights.

On or by June 20 of each year, the Office of State Fire Marshal shall distribute a master list or compilation of all said individual lists, segregated by importer, to all members of the fire service in California. This list shall also include a listing of snap cap and party popper devices which have been submitted for testing and classified as a "Snap Cap" or "Party Popper" by the Office of State Fire Marshal. This listing of snap caps and party poppers must include the name and address of the importer and the importer/exporter's registration number.

On or before June 1 of each year, the Office of State Fire Marshal shall supply each importer who submitted an individual list, a draft copy of how that importer's list will appear on the forthcoming master list. That importer shall then have ten (10) business days from its receipt of this draft list to review, approve and/or request any corrections in its listing. Any request for corrections must be submitted along with appropriate documentation to the Office of State Fire Marshal in Sacramento.

The failure of an importer to timely file its individual list and/or to file a timely request for substantiated corrections to the draft copy of how that importer's list will appear on the master list, as required by this Section, shall subject any item which does not appear on the Office of State Fire Marshal's master list to immediate seizure by any law enforcement or fire service entity in California at any location where these devices are being offered for retail sale.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§988. Labeling, General Provisions.

(a) All fireworks or pyrotechnic devices classified by the State Fire Marshal, in addition to bearing the State Fire Marshal Seal of Registration, shall be labeled in accordance with the provisions of this article. Such labeling may be by stamp, stencil or printing or by a firmly attached printed adhesive label. The entire label shall appear in legible type.

Exceptions: (1) Special Effects items developed and compounded on location for single time usage.

(2) Set pieces used for public display. (3) Any device that is too small for practical single-item labeling such that it would render the label illegible, as determined by the State Fire Marshal.

Authority: Sections 12552 and 12553, Health and Safety Code
Reference: Sections 12560-12569, Health and Safety Code

§988.1. Labeling of Dangerous Fireworks.

All dangerous fireworks, in addition to bearing the State Fire Marshal's Seal of Registration showing the classification and registration number as required in this article, shall bear a warning label with the wording: "Warning: Do Not Hold in Hand."

Authority: Section 12552, Health and Safety Code
Reference: Sections 12560 and 12560, Health and Safety Code

§988.2. Labeling of Agricultural and Wildlife Fireworks, Model Rocket Motors, High Power Rocket Motors, and Emergency Signaling Devices.

All agricultural and wildlife fireworks, model rocket motors, high power rocket motors and emergency signaling devices offered for sale, sold or used in this state shall bear, in addition to the seal, classification, and registration number required in this article, a warning label indicating to the user where and how the item is to be used and necessary safety precautions to be taken.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12560 and 12560, Health and Safety Code

§988.3. Instruction Labeling. Safe and Sane Fireworks.

(a) The following fireworks classified as “safe and sane” shall be labeled as indicated herein. Any “safe and sane” fireworks device not required to have a specific label as indicated below shall carry a legible warning label clearly indicating to the user where and how the item is to be used and necessary safety precautions to be observed. The use of the word “close” is optional.

(1) Fountains, Spike Fountains, and Whistles.

WARNING (OR CAUTION)
EMITS SHOWERS OF SPARKS
DO NOT HOLD IN HAND
Use only under (close) adult supervision
For outdoor use only
Place on level surface
Stick firmly in ground in an upright position (Spike items only)
Light fuse and get away

(2) Handle Fountains, California Candles

WARNING (OR CAUTION)
EMITS SHOWERS OF SPARKS
Use only under (close) adult supervision
For outdoor use only
Hold in hand at bottom of tube or handle
Point away from body so that neither ends points toward body or another person

(3) Ground Spinners or Ground Spinning Devices

WARNING (OR CAUTION) - SPINS ON GROUND
DO NOT HOLD IN HAND
EMITS SHOWERS OF SPARKS (either on the side, front, back, top, or bottom panel)
Use only under (close) adult supervision
For outdoor use only
Place on hard, flat, smooth, and level surface
Light fuse and get away

(4) Wheels-Vertical

WARNING (OR CAUTION)
EMITS SHOWERS OF SPARKS
DO NOT HOLD IN HAND
Use only under (close) adult supervision
For outdoor use only
Attach securely by means of a nail through the hole
Light fuse and get away

(5) Wheels-Horizontal

WARNING (OR CAUTION)
EMITS SHOWER OF SPARKS
Use only under (close) adult supervision
For outdoor use only
Attach string to object so that item hangs freely
Do not hold in hand
Light fuse and get away

(6) Toy smoke devices and flitter devices

WARNING (OR CAUTION)
FLAMMABLE (OR EMITS SHOWERS OF SPARKS, IF MORE DESCRIPTIVE)
Use only under (close) adult supervision
For outdoor use only
Do not hold in hand
Light fuse and get away

Authority: Sections 12552 and 12553, Health and Safety Code
Reference: Sections 12562, 12567 and 12568, Health and Safety Code

Article 8. Storage

§989. General.

All magazines shall meet the requirements as set forth in the Code of Federal Regulations, Title 27, Part 55, Subpart K (Storage).

Authority: Section 12552, Health and Safety Code
Reference: Sections 12640, 12671, 12673, 12674, 12679, 12722, Health and Safety Code

§989.1. Storage, General Provisions.

(a) All fireworks, pyrotechnic compositions and pyrotechnic devices shall be kept in a locked magazine and in a manner approved by the authority having jurisdiction unless they are:

- (1) In the process of being manufactured;
- (2) In the process of being used; or
- (3) Being transported to a place of storage or use by a licensee, in accordance with the Code of Federal Regulations, Title 49, Part 173, Subpart C, and Title 13, Chapter 6, Article 3 of the California Code of Regulations.

(b) Class C Common Fireworks and those devices designated as “safe and sane” fireworks shall be stored in a manner consistent with the Code of Federal Regulations, Title 49, Section 173.88.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§989.2. Access Roads and Signs.

All magazine storage sites shall have access roads suitable for use by fire apparatus posted with the following warning sign or other sign approved by the authority having jurisdiction:

**DANGER
NEVER FIGHT EXPLOSIVES FIRES
EXPLOSIVES ARE STORED ON THIS SITE
CALL _____**

The sign shall be weather-resistant with a reflective surface and lettering at least two (2) inches high.

Authority: Sections 12081, 12101, 12552 Health and Safety Code,
Reference: Sections 12081, 12101, 12552, Health and Safety Code

§989.3 Activities and Devices Prohibited.

Smoking, matches, flame-producing devices, open flames, and firearms shall not be permitted inside or within fifty (50) feet of magazines.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§989.4. Magazines in Dwelling Prohibited.

No loaded indoor storage magazine shall be located in a residence or dwelling.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

Article 9. Shipping and Transportation

§990. Transportation of Fireworks.

(a) Only fireworks and pyrotechnic devices classified by and bearing the Seal of Registration of the State Fire Marshal shall be transported within this state.

Exceptions: 1. Unclassified fireworks being transported to the State Fire Marshall for classification.

2. Unclassified fireworks being transported for verified out-of-state delivery.

3. Fireworks being imported and moving directly from the port of importation to the facilities of the licensed importer for purposes of application for the Seal of Registration for the State Fire Marshal.

(b) All fireworks and pyrotechnic devices being transported in this state, whether classified or unclassified, shall be packaged and transported in accordance with the Code of Federal Regulations, Title 49, Part 173, Subpart C, or with Health and Safety Code Sections 12650-12654.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12650-12654, Health and Safety Code

§990.1. General Safety.

Every vehicle transporting fireworks or pyrotechnic devices shall comply with Sections 27903, 31610, and 31616 of the Vehicle Code of the State of California.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12552, Health and Safety Code
Section 27903, Vehicle Code

Article 10. Reports

§990.2. Filing Reports.

Import/export licensees shall file written reports with the State Fire Marshal involving the importation of fireworks, in accordance with Health and Safety Code Sections 12619 and 12620.

(1) Prior to importing fireworks, the licensee shall file a report with the State Fire Marshal. Reports shall indicate the name and address of the manufacturer and of the shipper, the type and kind of fireworks being imported, the quantity of each type and kind of fireworks, the estimated arrival time of shipment, the name of the carrier, and the load number or other identification carton marks.

(2) Upon arrival or prior thereto, the State Fire Marshal shall be notified as to contemplated disposition of fireworks. Contemplated storage, classification, and reshipment plans shall be included in this report.

Exception: Import/export licensees shall not be required to file reports as outlined in this section for pyrotechnic devices and materials used solely for special effects.

Authority: Sections 12552 and 12620, Health and Safety Code

Reference: Sections 12619 and 12620, Health and Safety Code

§991. Safety Inspection.

Retail fireworks stands and sales areas are subject to inspection by the authority having jurisdiction. All areas where fireworks, pyrotechnic compositions or devices are used, stored or discharged shall be free from any condition which increases, or may cause an increase of, the hazard or menace of fire or explosion to a greater degree than customarily recognized as normal by persons in the public service of preventing, suppressing or extinguishing fire, or which may become the cause of any obstruction, delay or hindrance to the prevention, suppression or extinguishment of fire.

Authority: Section 12552, Health and Safety Code

Reference: Section 12682, Health and Safety Code

§991.1. Disposition Unsold Stock.

All retail fireworks licensees shall return unsold fireworks stocks to the wholesaler from whom they were purchased. The retail licensee may store unsold stock in a place and manner approved by the fire authority having jurisdiction until stock is returned to the wholesaler. Such return of stock shall be accomplished no later than the thirty-first of July of each year.

Authority: Section 12552, Health and Safety Code

Reference: Section 12552, Health and Safety Code

§991.2. Personnel.

The employer or permittee shall be responsible for instructing his or her personnel who handle fireworks, pyrotechnic compositions or devices in any capacity, in the hazards of and safety procedures relating to fireworks, pyrotechnic compositions or devices as contained in this chapter.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§991.3. Smoking, Storage and Handling Facilities.

Smoking shall be prohibited and “No Smoking” signs posted in all portions of the premises or locations where fireworks, pyrotechnic compositions, or devices are stored, or handled.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§991.4. Smoking, Sales Facilities.

Smoking shall be prohibited and signs bearing the words “No Smoking” shall be posted on and in every building, mobile facility, or structure used for the sale of fireworks. Signs shall be positioned at the entrance to and inside such buildings, mobile facilities, or structures and at such other locations as designated by the authority having jurisdiction. Lettering shall be red in color on a white background. Letters shall be at least 3 inches in height with a stroke of at least 1/2 inch.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§991.5. Prohibited Substances.

Intoxicating liquids, narcotics, and controlled substances are prohibited within the area of the firing site as determined by the authority having jurisdiction, and shall not be used by any person handling fireworks or special effects at any time during transportation, set-up, firing or removal.

Exception: Prescription drugs not impairing the motor functions and/or judgment of the persons affected by this section. Drugs must be taken as directed and specifically prescribed for the individual to be covered by this exception.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§992. Electric Firing Circuits, General.

Connecting any electric firing circuit to any power supply, is prohibited until all special effects devices, fireworks, and pyrotechnics in the sequence are connected to firing leads and the firing area is clear of all unauthorized personnel.

Exception: Circuit testing as described in section 992.3.

Authority: Sections 12552 and 12553, Health and Safety Code
Reference: Sections 12532 and 12552, Health and Safety Code

§992.1. Power Sources.

Power sources for firing special effects devices, fireworks, and pyrotechnics shall be restricted to batteries or individually isolated, ungrounded generators used for firing purposes only. Commercial or house power may be used provided the firing system is electrically isolated from the commercial or house power through the use of such items as isolation transformers. Under no condition may commercial or house power be used directly for firing purposes.

Authority: Sections 12552 and 12553, Health and Safety Code
Reference: Sections 12532 and 12552, Health and Safety Code

§992.2. Firing Systems Safeguards.

All firing systems, including battery and power circuit types, shall be designed to insure against accidental firing by providing a shunt or other control method in which no firing power may be applied to any firing circuits unless the operator intentionally enables or arms the firing system before applying firing power.

Authority: Sections 12552, 12553, Health and Safety Code
Reference: Sections 12532, 12552, Health and Safety Code

§992.3. Circuit Tests.

All electrically fired pyrotechnic circuits shall be tested with a galvanometer or other test device in which the test current is not capable of firing the pyrotechnic device being tested.

Authority: Sections 12552, 12553, Health and Safety Code,
Reference: Sections 12532, 12552, Health and Safety Code

§992.4. Sight Firing.

Special effects devices and pyrotechnics shall not be fired unless the area involved with the

firing is in the continuously unobstructed full view of the pyrotechnic operator or his/her assistant at the time of firing.

Authority: Sections 12552, 12553, Health and Safety Code
Reference: Sections 12532, 12552, Health and Safety Code

Article 14. Special Effects

§992.5. Scope.

This article shall govern all “Special Effects Devices/ Materials” including those materials which have been classified and described by the regulations of the Department Of Transportation, Title 49, parts 172, 173 and 177 as Special Fireworks Class B Explosives and Common Fireworks Class C Explosives and such additional items as listed in Table 14A.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12552, 12553, 12560 and 12651, Health and Safety Code

§992.6. Responsibility.

The company representative shall provide to the authority having jurisdiction the name and license number of the special effects operator who shall have the authority, responsibility and be in charge of handling all Special Effects Materials. The company representative shall also allocate sufficient time to the Special Effects Pyrotechnic Operator to prepare for the transportation, packing, storing, securing daily, discharging, disposing of, or otherwise handling of fireworks, pyrotechnic devices, or materials in a safe manner. Upon completion of firing, no unauthorized person shall be permitted access to the firing area until the licensed pyrotechnic operator has determined the area to be safe and secure.

Authority: Section 12552, Health and Safety Code
Reference: Sections 12552, 12583 and 12600, Health and Safety Code

§992.7. Orientation Meeting.

Prior to the activity, a discussion of the events planned and all aspects and ramifications concerning safety issues as they relate to the safe use of fireworks, pyrotechnic devices and materials shall be held among all appropriate parties, as determined by the authority having jurisdiction.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§992.8. Special Effects Materials.

(a) Materials described in this chapter as Special Effects Materials can be used as special

effects. Other hazardous materials may be used when so authorized by the authority having jurisdiction.

Authority: Section 12552, Health and Safety Code

Reference: Sections 12532, 12578, 12603, Health and Safety Code

§992.9. Storage and Working Supplies.

(a) Special Effects Materials storage facilities shall be used exclusively for the storage of Special Effects Materials. Storage facilities shall not be used for the assembling, compounding, or manufacture of Special Effects Materials or any other item of fireworks. Magazines shall be kept locked at all times except when supplies are being withdrawn or replenished. Special Effects Materials shall be stored in accordance with the Code of Federal Regulations, Title 27, Part 55, Subpart K.

Authority: Sections 12552 and 12553, Health and Safety Code

Reference: Sections 12532, 12578 and 12603, Health and Safety Code

§992.10. Quantities.

(a) The quantities of Special Effects Materials removed from magazines shall be limited to the amount necessary for immediate use. Under no condition shall any surplus or excess be permitted to remain outside a magazine, unless under the direct supervision of a licensed pyrotechnic operator.

Authority: Sections 12552, 12553, Health and Safety Code

Reference: Section 12552, Health and Safety Code

§992.11. Equipment.

All tools, scoops and devices used in loading and handling Special Effects Materials shall be made of non-sparking materials.

Authority: Sections 12552, 12553, Health and Safety Code

Reference: Section 12552, Health and Safety Code

§992.12. Mixing.

No person shall mix any Special Effects Material except a licensed manufacturer or a licensed Special Effects Pyrotechnic Operator--First Class. All mixing, assembling, or compounding when done by other than a licensed manufacturer shall be conducted in accordance with the applicable provisions of this chapter and with approval of the authority having jurisdiction.

EXCEPTION: Binary A & B Flash composition pre-packaged by a licensed manufacturer may be mixed and utilized according to manufacturer's instructions by a Pyrotechnic Operator Special Effects--Second Class, or Pyrotechnic Operator, Theatrical.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§992.13. Special Effects Water Locations.

All special effects devices and explosive charges set in or on the surface of water, either salt or fresh, or any other liquid, shall be fired by a separate, individual, ungrounded, and uncommon two-wire circuit.

Authority: Sections 12552, 12553, Health and Safety Code
Reference: Section 12552, Health and Safety Code

992.14. Special Effects Not Allowed To Be Carried In Wearing Apparel.

No Special Effects Materials other than blank cartridges may be carried within the wearing apparel of a person. This shall not apply to actors in portraying a scene in a theatrical, television, or film production.

Authority: Sections 12552, 12553, Health and Safety Code
Reference: Section 12552, Health and Safety Code

992.15. Special Effect Packaging.

All Special Effects Materials shall be packaged in accordance with Department of Transportation standards as contained in Title 49 of the Code of Federal Regulations, Parts 172, 173, and 177, and shall remain in the prescribed containers until used or placed in a magazine.

Authority: Sections 12552, 12553, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§992.16. Special Effects Mortars.

Mortars and other items used to hold special effects, pyrotechnic or explosive materials during discharge shall be made of a material having a thickness proportional to the strength of the explosive or pyrotechnic material being used, and in every case sufficient to prevent distortion in service. Tubular mortars for firing aerial pyrotechnic and fireworks shells shall conform to the requirements of article 15 of this chapter.

Authority: Sections 12552 and 12553, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§992.17. Flash Powder Mortars.

The use of special effects flash powder mortars consisting of converted switch boxes, sockets,

or similar components is prohibited.

Authority: Sections 12552, 12553, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§992.18. Special Effects Reports.

(a) Verbal reports shall be made to the State Fire Marshal within 24 hours after a firing under this article when either of the following events occur:

(1) Injury or death to the public or the crew as a result of the firing.

2) Fires requiring emergency action or response.

(b) Within ten (10) working days following an incident giving rise to a verbal report, the licensed pyrotechnician in charge of the activity shall submit a complete, accurate and factual report directly to the State Fire Marshal on the episode.

Authority: Sections 12552, 12553 Health and Safety Code
Reference: Section 12552, Health and Safety Code

TABLE 14A
Special Effects Materials

The following materials, when used in the motion picture/television/theatrical industry by licensed special effects pyrotechnicians and when permitted by the authority having jurisdiction, are to be regulated under this chapter as fireworks, pyrotechnic materials and devices and not as explosives under Health and Safety Code Section 12000.

BULK POWDER COMPOSITIONS AND DEVICES

Black Powder
Smokeless Powder
Smoke Flash Compositions
Common Photo Flash Compositions
Illuminating Compositions
Atomized Flash Compositions
Two Component Flash Powder
Flash Paper
Flash Cotton
Flash Powder
Simulated Phosphorus
Sparking Granules
Lifters

SMOKE POWDER COMPOSITION AND DEVICES

All Colors
Smoke Compositions
Smoke Pellets
Smoke Granules
Smoke Candles
Smoke Cookies
Smoke Grenade
Smoke Pots
Smoke Signals

MATCHES AND FUSES

Quick Match
Black Match
Arcing Match
Silver Match
Cannon Fuse
Safety Fuse
Thermalite
Instantaneous Fuse
Igniter Cord

SQUIBS AND DETONATORS

Bullet Hits
Electric Match
Soft Detonators
Squibs
Detonators
Igniters

FIREWORKS

Common Class C Safe and Sane Fireworks
Common Class C Dangerous Fireworks
Special Class B Fireworks

OTHER MATERIALS

Primacord or Detonating Cord
Exploding Bolts and Cable Cutters
Non Electric Fuse
Shape Charges
Trick Noise Makers

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

Article 15. Public Display

§993. Insurance.

(a) Any person, firm, or corporation applying for a public display license shall furnish to the State Fire Marshal a policy of public liability and property damage insurance. The policy may have a deductible not to exceed fifteen thousand dollars (\$15,000). The policy shall provide limits of bodily injury and property damage liability of not less than one million dollars (\$1,000,000.00) combined single limits for each occurrence annually as payment for damages to persons or property which may result from or be caused by such public display of fireworks, or any negligence on the part of the licensee or his or its agents, servants, employees, or subcontractors presenting such public display.

Exception: A deductible in excess of fifteen thousand dollars (\$15,000) may be permitted provided a security deposit, such as, but not limited to a surety bond, pledge of assets or bank letter of credit covering the value of the excess, is approved by the State Fire Marshal.

(b) The certificate of insurance shall provide all of the following:

(1) That the insurer will not cancel the insured's coverage without 15 days prior written notice to the State Fire Marshal.

(2) That the duly licensed pyrotechnic operator required by law to supervise and discharge the public display, acting either as an employee of the insured or as an independent contractor and the State of California, its officers, agents, employees, and servants are included as additional insurers, but only insofar as any operations under this chapter are concerned.

(3) That the State shall not be responsible for any premium or assessments on the policy.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§993.1. Reports.

General public display and special public display licensees shall report to the State Fire Marshal prior to date of each display all public displays of fireworks contemplated under their license. Licensee must report to the State Fire Marshal at least 72 hours prior to each display on state-owned or state-occupied property. Applicants for limited public display licenses shall report at the time of applying for their license. The report shall contain the information set forth in Section 982.

Exception: A general public display licensee conducting special effects activities for motion

picture, television, and theatrical productions need not comply with any of the above reporting requirements.

Authority: Sections 12552 and 12553, Health and Safety Code
Reference: Sections 12532 and 12552, Health and Safety Code

§997. Pyrotechnic Operators, Basic Commercial, Responsibilities.

(a) No basic commercial public display permit shall be granted unless there is a licensed basic commercial pyrotechnic operator and at least one additional experienced person present.

Pyrotechnic Operators, Basic Commercial, shall:

- (1) Be responsible for and have control over on-site unloading, storing, and security of all fireworks;
- (2) Be responsible for placement of mortars, set pieces, and all other fireworks on-site as approved by the authority having jurisdiction. No fireworks shall be discharged over areas occupied by spectators;
- (3) Insure that no person under the age of 18 is in the firing or fireworks storage sites;
- (4) Be in possession of a current basic commercial license at the time of display; and
- (5) Be responsible for and have control over the safe return of all unfired fireworks, misfires and duds.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§999. Mortars, Aerial Shells.

(a) General.

- (1) Electric firing shall be required for all mortars eight inches (8") or greater in diameter.
- (2) Multiple-break shells that include a salute as one of the breaks shall be fired in HDPE mortars only.

(b) Steel Mortars.

- (1) Steel Mortars shall be constructed of commercially manufactured, first quality electric resistance weld (ERW) or drawn over mandrel (DOM) steel tubing conforming to ASTM Standard A135-83, which is incorporated by reference. Mortars constructed of cast iron, other fragmenting types of steel, and all other types of metal are prohibited. Salutes shall not be fired from metallic mortars.

(2) Steel mortars shall have a base plate the same thickness of the mortar wall, welded continuously around its perimeter.

(3) The inside length of steel mortars shall meet the minimum specifications set forth below:

Shell Size	Inside Length
1.99 inches or less	8 inches
2 inches	13 inches
2 1/2 inches	13 inches
3 inches	15 inches
4 inches	20 inches
5 inches	25 inches
6 inches	30 inches
7 inches	32 inches
8 inches	32 inches
10 inches	40 inches
12 inches	40 inches
16 inches	64 inches
24 inches	96 inches

(4) Mortars shall not have any visible cracks in the body of the tube, nor any cracks or voids in the weld around the base plug. Mortars shall not be dented or distorted beyond the point that such distortion interferes with the smooth and unimpeded travel of the shell throughout the entire length of the mortar.

(c) Paper Mortars.

(1) Reusable paper mortars shall be of spiral or convolute wound kraft paper or chipboard, and shall meet the minimum specifications set forth below.

Shell Size	Wall Thickness	Inside Length	Base Plugs*
Less than 2"	1/8 inch	8 inches	1 inch
2 inches	1/4 inch	13 inches	2 inches
2 1/2 inches	3/8 inch	13 inches	3 inches
3 inches	3/8 inch	15 inches	3 inches
4 inches	1/2 inch	20 inches	3 inches
5 inches	1/2 inch	25 inches	4 inches
6 inches	1/2 inch	30 inches	4 inches
7 inches	3/4 inch	32 inches	4 inches
8 inches	3/4 inch	32 inches	4 inches

* Sizes for base plugs are nominal.

(2) Base plugs for paper mortars shall be wooden and securely glued, as well as nailed, screwed or bolted to the base of the mortar. Base plugs shall be discarded and replaced when damaged. Minor cracks and checks are acceptable.

(3) Multiple-break shells shall not be fired from paper mortars.

(d) HDPE Mortars.

(1) High Density Polyethylene (HDPE) mortars shall meet the minimum specifications set forth below:

Shell Size	Wall Thickness	Inside Length	Base Plug*
Less than 2"	1/8 inch	10 inches	1 inch
2 inches	1/4 inch	13 inches	2 inches
2 1/2 inches	1/4 inch	13 inches	3 inches
3 inches	1/4 inch	15 inches	3 inches
4 inches	1/4 inch	20 inches	3 inches
5 inches	1/4 inch	25 inches	4 inches
6 inches	3/8 inch	30 inches	4 inches
7 inches	3/8 inch	32 inches	4 inches
8 inches	3/8 inch	32 inches	6 inches

* Base plug sizes are nominal.

HDPE Mortars shall not be reloaded for a period of at least one (1) hour after use. All base plugs for HDPE mortars shall be wooden, and securely glued, as well as nailed, screwed, or bolted to the base of the mortar. Base plugs shall be discarded and replaced when damaged. Minor cracks and checks are acceptable.

(e) Other Materials.

(1) Recognizing that new materials for the construction of mortars may be developed, such materials may be used when specifically approved by the State Fire Marshal. Persons wishing to use material not specifically covered in this section shall submit the material in an amount sufficient for testing to the State Fire Marshal for determination of its safety and its inclusion in this section.

Note: For illustrations of typical mortar racks, troughs and drums, see Diagrams A, B, and C following Section 1002.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552 Health and Safety Code

§1001. Setting Mortars.

(a) Metallic, re-usable paper and HDPE mortars shall be securely buried to a minimum of 2/3 of their minimum legal length in earth or in drums or troughs filled with moist earth or sand essentially free of debris.

(b) Mortars other than metallic mortars may be placed in wooden finale racks.

(c) Planking below mortars shall be required when the base of the mortar, trough, or drum is not on a stable and level surface.

(d) Mortars in non-electrically-fired shows shall meet all of the following requirements:

(1) Mortars up to five inches in diameter and buried in earth or placed in troughs or drums shall be spaced a minimum of 3 inches apart or from the sides of the drum or trough.

(2) Mortars six inches or larger in diameter and buried in earth or placed in troughs or drums shall be spaced a minimum of 5 inches apart or from the sides of the drum or trough. When a mortar requiring 5 inches of space is placed adjacent to a mortar requiring only 3 inches of spacing, the larger spacing shall apply.

(e) Mortars in electrically-fired shows shall meet all of the following requirements:

(1) All mortars buried in earth or placed in drums and troughs shall be nominally spaced 2 inches apart or from the sides of the drum or trough.

(2) All technicians shall be positioned a minimum of 100 feet from any mortar and positioned so as to be protected from the direct line of fire.

(3) No one shall be allowed to enter the firing area during the firing of the display.

(f) Mortars shall be set in a stable and secure manner so that accidental impact and shell discharge will not change the trajectory of adjacent unfired shells.

Note: For illustrations of typical mortar racks, troughs and drums, see Diagrams A, B, and C following Section 1002.

Authority: Section 12552 Health and Safety Code,
Reference: Section 12552, Health and Safety Code

1002. Design Specifications for Mortar Racks, Troughs, Drums, and Ready Boxes.

(a) Mortar racks shall be limited to a maximum of 10 tubes per unit. The base and ends of the rack shall be nominal 2 inch thick lumber. The inside width shall be equal to the outside diameter of the mortar tube. Each mortar tube shall be separated by horizontal or vertical blocks nominally 2 inches thick and 4 inches wide. Side braces for mortar racks of 3 inch size mortars and up shall be 1 inch x 6 inch nominal lumber or 1/2 inch x 4 inch plywood securely fastened by nails, screws, or attached with construction grade staples along the top and bottom of the rack. A diagonal side brace must be employed on all mortar racks with more than 5 mortar tubes. Mortar racks shall not incorporate steel brackets or other metallic parts in their construction with the exception of nails, screws, or construction-grade staples. Metallic braces shall not be fastened to mortar racks at the firing site.

(b) Troughs shall not be more than 8 feet in length. Troughs may be placed in a continuous row provided they are stable and secure. The sides, bottom and ends of troughs shall be minimum 3/4 inch plywood or nominal 2 inch lumber, except in cases where the surface at the bottom of the trough is sufficiently stable to support the firing of the mortar, no bottom shall be required. Troughs shall be secured by minimum 3/8 inch through bolts, rods or angle iron "U" brackets at each end and center to prevent bulging.

(c) Drums shall be constructed of steel, aluminum or plastic.

(d) Ready boxes shall be constructed of wood not less than 1/2 inch thickness or 3/8 inch plywood, chipboard or presswood. Ready boxes shall not be equipped with any type of hold open device.

Note: For illustrations of typical mortar racks, troughs and drums, see Diagrams A, B, and C immediately following this section.

Authority: Section 12552, Health and Safety Code

Reference: Section 12552, Health and Safety Code

Section 55.200, 27 Code of Federal Regulations

DIAGRAM A

DIAGRAM OF A TYPICAL RACK

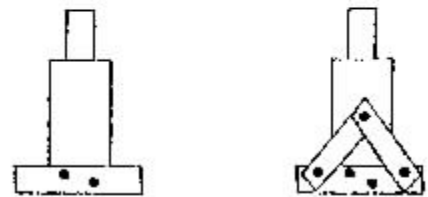
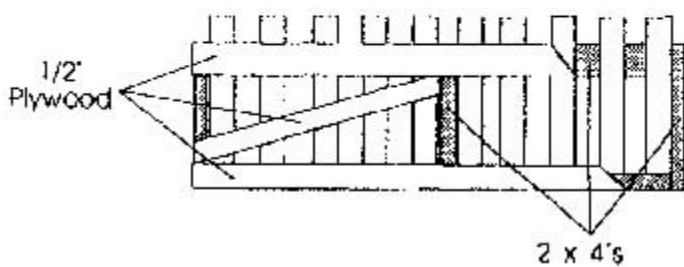
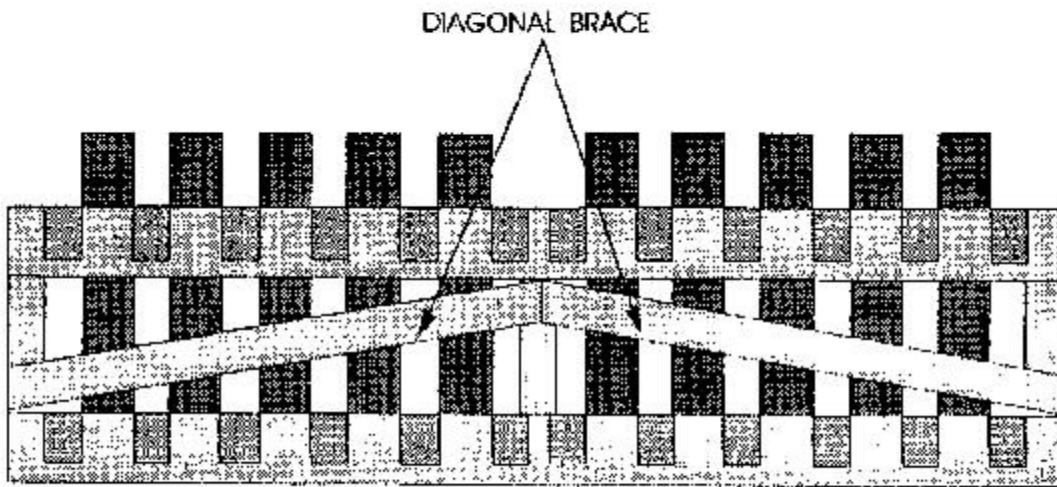
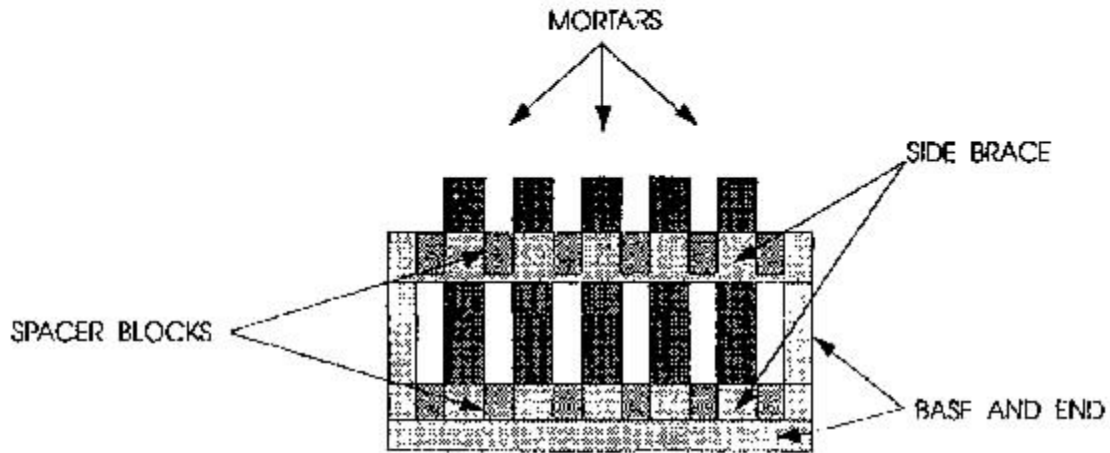
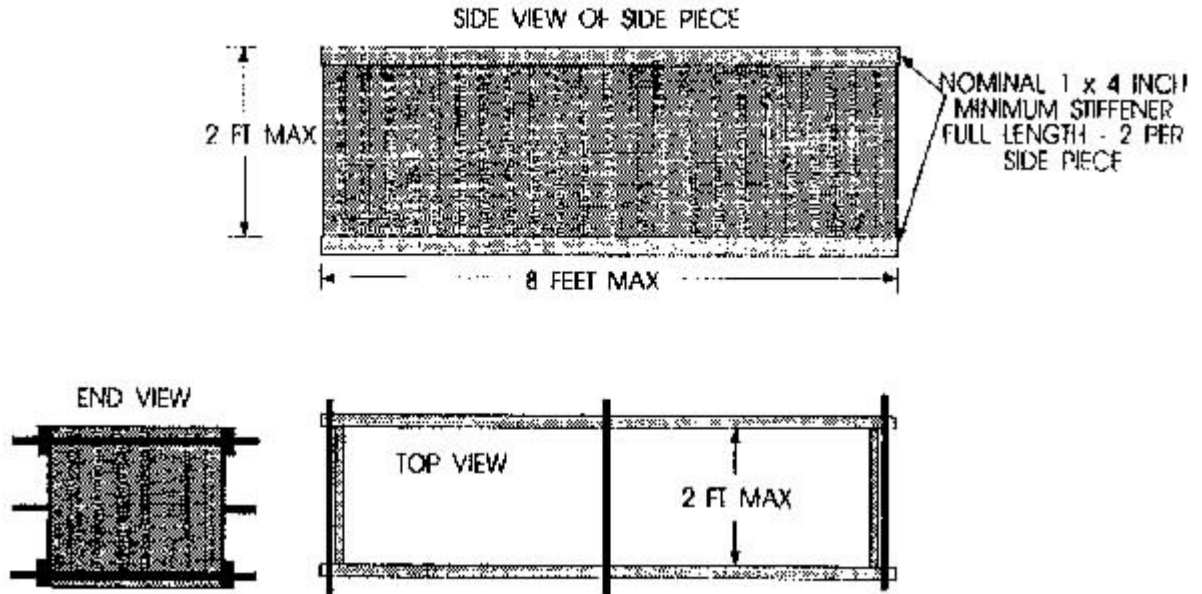
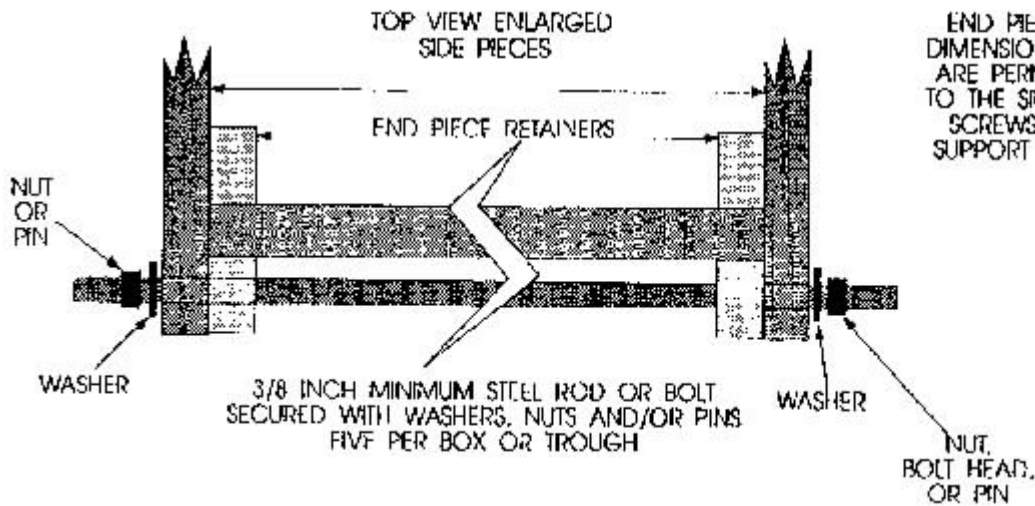


DIAGRAM B
 DIAGRAM OF A TYPICAL TROUGH SETTING



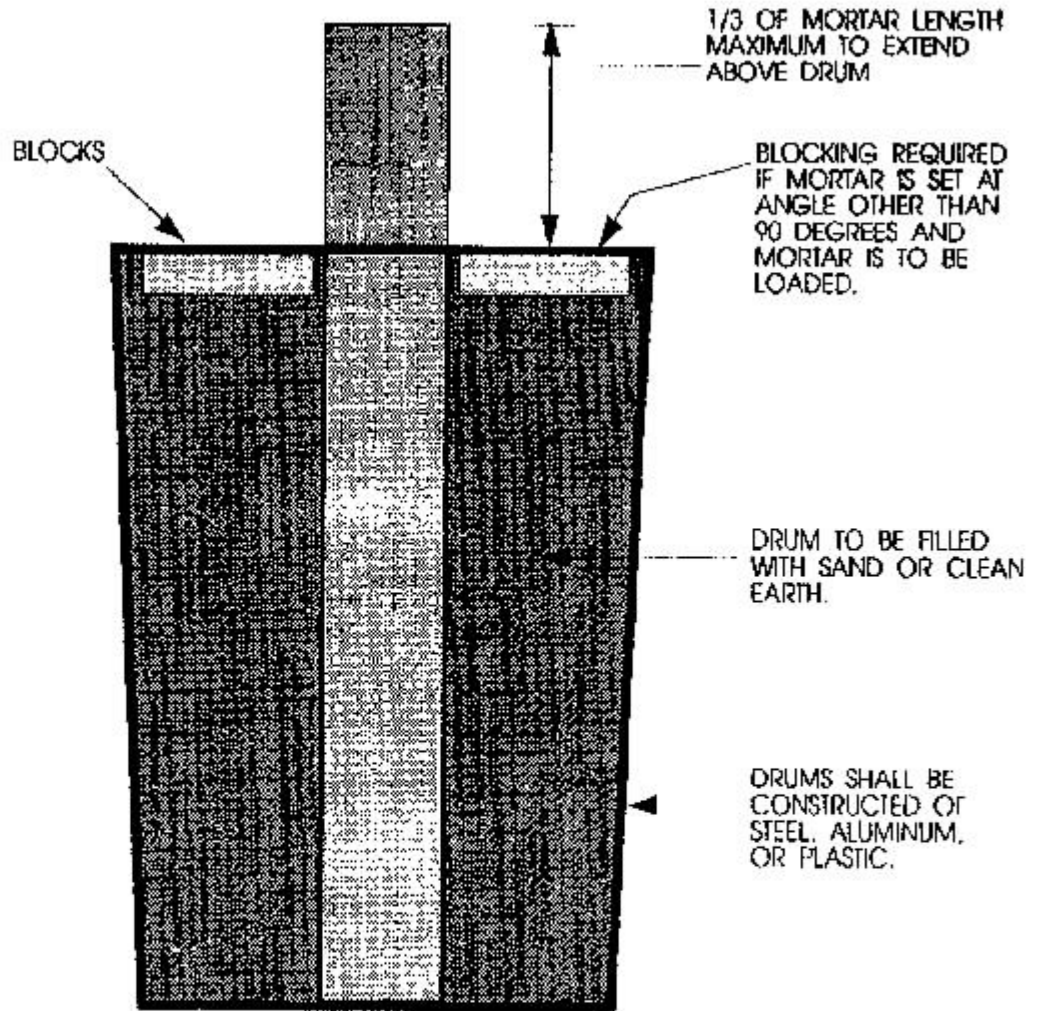
(STIFFENERS ARE NOT SHOWN FOR CLARITY)



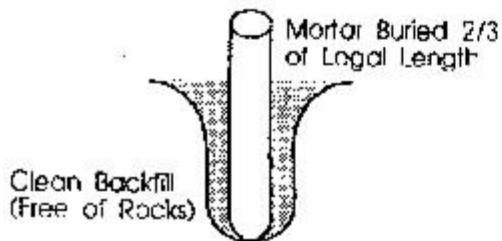
END PIECE RETAINERS ARE DIMENSIONAL LUMBER WHICH ARE PERMANENTLY SECURED TO THE SIDE PIECES BY NAILS, SCREWS OR STAPLES AND SUPPORT THE END PIECES IN PLACE.

DIAGRAM C

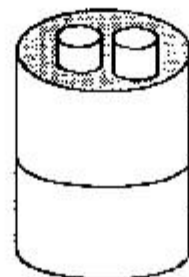
DIAGRAM OF A TYPICAL DRUM SETTING



Buried setting



Drum Setting



Mortars Covered
2/3 of Legal Length

Clean Backfill
of Rock-Free
Sand or Soft Dirt

Planking
(If Necessary)



§1003. Operation of Display.

(a) General.

- (1) All fireworks at a display site shall be stored in a place and manner secure from fire, accidental discharge, and theft. All storage shall be approved by the authority having jurisdiction.
- (2) Shells shall be sized for proper fit and for damaged lift charge bags, lead fuse tears, tears in the piping of the quick match leaders, and missing safety caps.
- (3) Safety caps protecting the fuse shall not be removed until firing or electric hookup.

(b) Ready Boxes.

- (1) Shells used for reloading shall be placed in ready boxes prior to the start of the display.
- (2) Ready boxes shall not be located less than 25 feet upwind from the nearest mortar prior to any firings.
- (3) Ready boxes shall be divided into separate compartments for each shell size.
- (4) When containing shells, ready boxes shall be set with the bottom facing the mortars with the front elevated, or set on the bottom with the hinges towards the mortar, providing the lid cannot be opened fully.
- (5) Once in place, the ready box shall be covered with a flame-resistive water-repellant canvas cover.

(c) Loading Mortars.

- (1) At no time shall any person place any part of their body over the mortar muzzle during loading or firing.
- (2) Mortars shall be cleaned of debris or burning material prior to loading, and prior to reloading, as necessary.
- (3) Mortar racks may be reloaded with non-chained single-break shells when there is no longer any burning material in the racks.
- (4) Finale racks shall have tape placed over the mortar muzzles when loaded with finale chained shells.
- (5) Salutes and detonating shells shall not be fired from steel mortars.

(6) Multiple-break shells that include a salute as one of the breaks shall be fired from HDPE mortars only.

(d) Firing.

(1) All firing shall be done upon order or signal of the licensed pyrotechnic operator controlling the display.

(2) Electric firing, if utilized, shall comply with all of the requirements of Article 13.5 of this chapter.

(3) Upon conclusion of firing, no unauthorized person shall be permitted access to the firing area until the licensed pyrotechnic operator has determined the area to be safe and secure.

(4) Electric firing shall be required for all mortars eight inches (8") or greater in diameter.

(e) Ground Effects.

(1) Set pieces, wheels, and mechanical devices shall be braced, guyed and securely attached or set as required to prevent displacement.

(2) Low level Roman Candles, multiple batteries and projectiles shall be securely set to prevent accidental displacement.

(f) Duds.

(1) The licensed pyrotechnic operator shall account for and retrieve all duds immediately following the display.

(2) The entire firing range shall be inspected immediately following the display to locate any duds. Any shells found shall be immediately doused with water before handling. The shell shall then be placed in a separate container filled halfway with water.

(g) Misfires.

(1) When a shell misfires, and the fuse has burned, but the lift charge has not functioned, the mortar shall be identified and marked, and left undisturbed for a minimum of 5 minutes, then filled halfway with water.

(2) When the shell misfires due to electric malfunction, and the fuse has not yet burned, the shell shall be removed and stored pursuant to the permit.

(3) When the display is concluded, the misfired shell shall be placed in a safe area pursuant to the permit.

(h) Unfired shells, including duds and misfires, must be removed immediately following the display and returned directly to the wholesaler/manufacturer unless provision has been made for storage and/or destruction with the authority having jurisdiction.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

1004. Safety Tools and Equipment.

(a) Tools required at the display site shall be at a minimum a shovel, a serviceable pressurized water fire extinguisher, a bucket or other container to soak duds, and any other equipment as required by the authority having jurisdiction.

(b) Any person manually discharging aerial shells shall wear at a minimum a hard hat, eye protection, long sleeved shirt, gloves, long pants, and shoes or boots, and have available ear protection, as required by the authority having jurisdiction.

Authority: Section 12552 Health and Safety Code,
Reference: Section 12552, Health and Safety Code

§1005. Post Display.

(a) Reports.

(1) Within ten (10) working days following any public display, the licensed pyrotechnician in charge of the display shall submit a complete, accurate and factual written report directly to the State Fire Marshal, covering:

(A) A brief report of any duds or misfires including manufacturer's name, type and size;

(B) A brief account of the cause of injury to any person from fireworks and such person's name and address;

(C) A brief account of any fires caused by fireworks;

(D) Any violations of the Health and Safety Code or of these regulations relating to public display fireworks; and

(E) The names of all licensed and unlicensed assistants.

Exception: A general public display licensee conducting special effects activities for motion picture, television, and theatrical productions need not comply with the requirements of subsections (A) and (E).

(b) Notification.

Verbal reports are required within 24 hours to the State Fire Marshal when any of the following occur:

- (1) Fire requiring emergency action or response as a result of the firing; or
- (2) Injury or death to the public or crew.

Within ten (10) working days following an incident giving rise to a verbal report, the licensed pyrotechnician in charge of the activity shall submit a complete, accurate and factual report directly to the State Fire Marshal on the event.

(c) Unfired Shells.

Unfired shells shall either be removed following the display and returned directly to the wholesaler or supplier or stored in a manner approved by the authority having jurisdiction until such time as the shells can be transported directly to the wholesaler or supplier.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1006. Smoking.

No person shall smoke in any area where fireworks are handled or stored.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

Article 16. Experimental Rockets/Unlimited

§1010. General.

This article applies to all rockets except approved model rockets as defined in Article 14 and experimental high power rockets and experimental high power rocket motors as defined in Article 2.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552 Health and Safety Code

§1011. Test Areas.

- (a) Experimental rockets unlimited shall not be launched within this State from any site other than test areas approved for such purpose by the fire authority having jurisdiction.
- (b) These test areas shall meet the following minimum requirements:
- (1) Test areas shall consist of a launching site and an impact range.
 - (2) The launching site is that area immediately surrounding the launching devices, including positions to protect all personnel.
 - (3) The impact range is that area over which rockets may travel by design or accident and upon which they fall. Its length should be not less than the maximum calculated ideal ballistic range of any rocket to be fired from its launching site and extends as the radius of a circular section 90° from the launching site apex into the prevailing wind.
- (c) Test areas should include no dwellings or structures other than those provided for operating and non-operating personnel protection and loading rockets.
- (d) Operating personnel protection shall consist of a bunker, blockhouse or similar protection designed to withstand shrapnel and mass impact equal to the potential created by the heaviest rocket intended to be fired, and falling from its zenith or exploding at any point. This bunker when located not less than 50 feet distant from the launching device shall afford minimum protection equal to a 2 foot wide slit trench not less than 5 feet deep and parapet observation ports with protection equal to a double thickness of sand bags. Overhead protection should consist of substantial structural materials, and these materials shall be covered to afford protection equivalent to that of a double layer of filled sandbags. Non-operating personnel minimum protection when located not less than 250 feet distant from the launching device shall consist of construction at least equal to the slit trench shelter described above.
- (e) Rocket loading facilities shall be housed in a lightly constructed and covered structure located not less than 100 feet distant from any other structure including any or launching device. Within this State, all fuel or propellant compounding or loading of experimental rockets unlimited shall be performed by licensed pyrotechnic operators or by experienced persons directly supervised by these pyrotechnic operators.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1012. Rocket Launchers.

Rocket launchers shall have a minimum length sufficient to insure stabilization to any rocket fired from them and shall be constructed of appropriate material such as metal or rigid flame-resistant plastic and designed for the specific intended purpose and use. Special protection shall be provided for persons setting and arming all rockets. The use of any two rail, "V" or "U" trough launcher, which depends solely on gravity to control the rocket during launching is prohibited.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1013. Setting Rocket Launchers.

All adjustments and alignments of the rocket launcher and connections shall be completed before the rocket is armed. Final rocket launcher adjustments shall be checked by the licensed pyrotechnic operator in charge.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1014. Firing Procedure.

A definite ordered firing procedure shall be established by the licensed pyrotechnic operator in charge. Both visible and audible signals shall be used to alert all persons in the test area. Any launch or firing code used shall be reduced to writing and posted conspicuously in the test area.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552 Health and Safety Code

§1015. Launching Rockets.

(a) Rockets may not be armed or launched except by an experienced pyrotechnic operator, who, if he or she is not licensed, shall be directly responsible to the licensed pyrotechnic operator in charge. The actual arming operation shall be accomplished by a competent person. During all arming operations all personnel shall take shelter when launching, excepting only the individual arming the rocket and his or her necessary assistants. All internal self-contained firing circuits (within the rocket) including, but not by way of limitation, multiple stage ignition, parachute releases, bursting charges, etc., shall be provided with an arming and disarming device operable remotely from without the assembled rocket in the launching position.

(b) The firing circuit shall be shunted at both the control center and the launching site by the pyrotechnic operator assigned to arm the rocket. Both shunts shall be in place and

he or she shall test them to insure that the firing circuit is effectively short-circuited, before the rocket is set in the launching position.

(c) The single special key, which removes the launching site shunt from the firing circuit, shall be the sole means for completing the firing circuit at the control center. The arming operator shall retain the shunt key in his or her personal possession from the time the circuit is initially shunted until the arming operations are completed and he or she removes the last shunt in the control center and establishes a ready firing circuit.

(d) No other means or device than a remotely controlled electric circuit of an approved design may be used to launch single stage rockets or the first stage of multistage rockets.

Authority: Health and Safety Code Section 12552

Reference: Health and Safety Code Section 12552

Article 17. Model Rockets

§1020. General.

Nothing in this article is intended to regulate the sale or the construction of model rockets, provided that such model rockets are not equipped with a model rocket motor.

Authority: Section 12552 Health and Safety Code,
Reference: Sections 12552, Health and Safety Code

§1021. Classification and Labeling.

(a) All types of model rocket motors shall be submitted to the State Fire Marshal by a licensed model rocket motor manufacturer, importer/exporter, or wholesaler for classification. A copy of a certificate of classification indicating the item has been classified as a model rocket motor by a laboratory approved by the Department of Transportation shall accompany the request for classification by the State Fire Marshal. Three samples of each motor type shall be submitted to the State Fire Marshal for classification. Standards for the classification for model rocket motors shall conform to the National Fire Protection Association (N.F.P.A.) 1122 (1987), Code for Unmanned Rockets, Sections 3-1.1, 3-1.2, 3-1.3, 3-1.4, 3-1.5, 3-1.6, 3-1.7, 3-1.8, 3-1.9, 3-1.10.

(b) Individual engines shall bear the California State Fire Marshal seal and the registration number of the licensee.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552, 12560, 12565, Health and Safety Code

§1022. Model Rocket Standards and Use.

(a) Model rocket standards and use shall comply with NFPA 1122, the Code for Unmanned Rockets, Chapter 3, Sections 3-1.1 through 3-1.10, Chapter 4, Chapter 5, Chapter 6, and Appendix A-2-(1987), which is incorporated by reference herein except for Appendices A-2.3 and A-2.4.

Authority: Section 12552 Health and Safety Code
Reference: Section 1255 Health and Safety Code

§1023. Storage and Sale.

No model rocket motors shall be stored, sold or offered for sale at retail unless such model rocket motors have been classified by the California State Fire Marshal.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1024 Restrictions.

The provisions of this article shall not be used to establish the authority to possess, launch or use experimental unlimited or experimental/high powered rocket motors.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1025. Authorization.

(a) No model rocket user shall launch any model rocket from any site without first securing authorization from the authority having jurisdiction. The authority having jurisdiction may require notification each time that model rockets are to be launched.

(b) It shall be the responsibility of the model rocket user to secure permission of the owner of private lands when such land is intended to be used to launch model rockets.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1026. Revocation of Permits and Authorized Use of Launching Area.

The authority having jurisdiction may immediately revoke a permit to sell model rocket motors at retail if it is found that those persons granted a permit have violated these regulations. The authority having jurisdiction may immediately revoke its authorization to use a firing area if it is found that an undue hazard exists, including, but not limited to, fire safety hazards or life safety hazards.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1027. Minimum Age.

(a) No model rocket motors shall be sold, given, or delivered to any person under 18 years of age.

EXCEPTIONS:

(1) Model rocket motors bearing the standardized coding 1/4A, 1/2A, A, B, C, and D may be sold, given, or delivered to any person 14 years of age or older.

(2) Persons who are 12 years of age or older and who are taking part in a model rocket education program may receive model rocket motors and launch approved model rockets motors when under the direct supervision and control of a person 18 years of age or older. Model rocket motors must be obtained only from the adult in charge of the launching. Approved model rocket motors for this exception shall bear the motor coding 1/4A, 1/2A, A, B, C or D.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1028. Supervision.

The permittee shall be responsible for the safety of all spectators and other persons connected with the launching of model rockets.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

Article 18. Experimental High Power Rockets and Motors

§1030. General.

This article is intended to regulate the sale, storage, construction and use of experimental high power rocket motors and experimental high power rockets.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1031. Classification and Labeling.

(a) All types of experimental high power rocket motors shall be submitted by a licensed experimental high power rocket motor manufacturer, importer/exporter, or wholesaler to the State Fire Marshal for classification.

(b) All motors shall bear the State Fire Marshal seal and the registration number of the licensee. Classified motors contained within packages may have the State Fire Marshal seal and registration number on the package, provided that such packages are sealed.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1032. Experimental High Power Rocket Motor Standards and Use.

(a) Experimental high power rocket motor design and construction standards shall comply with all of the following:

(1) The maximum total impulse per rocket motor shall not exceed 10,240 Newton-seconds (2302.2 lb.-seconds).

(2) When more than one rocket motor is utilized, the combined total impulse shall not exceed 20,480 Newton-seconds (4604.4 lb.-seconds).

(b) If an experimental high power rocket is equipped with an experimental high power rocket motor, then the rocket shall:

(1) be constructed of paper, plastic, rubber, aluminum or wood except that minor components such as screw eyes or motor mounts may be of other light-gauge metals; and

(2) include an effective means or device for returning the rocket safely to the ground without causing personal injury or property damage; and

(3) The rocket shall not contain any type of explosive or pyrotechnic warhead of any type.

(c) An experimental high power rocket shall not be used as a weapon.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1033. License Required.

No person shall possess, receive, transport, store, or launch any experimental high power rocket motor without first securing a valid license as a Pyrotechnic Operator--Rockets First, Second, or Third Class from the State Fire Marshal. No person shall sell an experimental high power rocket motor to any person unless the seller possesses a valid license as a wholesaler or retailer under this chapter.

Authority: Section 12552 Health and Safety Code
Reference: Section 12552 Health and Safety Code

§1034. Local Permit Required--Seller.

No person shall sell an experimental high power rocket motor without first securing a permit from the authority having jurisdiction. This permit shall be in addition to, not in lieu of, a valid license issued by the State Fire Marshal for the sale of these motors. This permit shall be deemed separate from a local permit allowing the launching of rockets utilizing such motors.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1035. Local Permit Required--Launch.

(a) No experimental high power rocket motor user shall launch any experimental high power rocket motor from any site without first securing a permit from the authority having jurisdiction.

(b) The authority having jurisdiction may require notification by the permittee each time an experimental high power rocket motor is to be launched. It shall be the responsibility of the experimental high power rocket motor user to also secure the permission of the owner of private land when such land is intended to be used as a launch site.

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1036. Launching Facilities.

(a) Experimental high power rocket motors shall be launched from platforms meeting the following specifications:

(1) A launch guide (tube, rod, tower or other suitable device) shall be used to restrict the horizontal motion of the rocket until flight velocity sufficient to maintain stability during flight is achieved.

(2) A launch angle of not more than twenty degrees (20°) from the vertical shall be used.

(b) Rocket motor launching shall be by remote electrical means only, and under the supervision and control of an individual properly licensed in accordance with this chapter.

(c) Surface wind at the launch site shall not exceed twenty miles per hour (20 m.p.h.), and visibility above the launching area shall be at least five thousand feet (5,000 ft.).

(d) The recovery device wadding ejected from the rocket during the launch flight sequence, if used, shall be of flame retardant material meeting the standards of Title 19, California Code of Regulations, Chapter 8, Sections 1171 through 1355.

(e) Experimental high power rocket motors shall be launched only during daylight hours unless specifically approved by the authority having jurisdiction.

(f) All personnel, including those conducting the actual launching of the experimental high power rocket motor(s), shall maintain a clear radial distance from the launch

platform during the countdown and launch, pursuant to the guidelines in Table 18A.

TABLE 18A

REQUIRED LAUNCH DISTANCES

**TOTAL IMPULSE RADIAL DISTANCE
OF ROCKET FROM LAUNCHER**

(in Newton Seconds)*

0--320 30 feet

320.01--1280 150 feet

1280.01--2560 200 feet

2560.01--5120 300 feet

5120.01-10240 500 feet

10241---20480 1000 feet

*Rockets propelled by clusters of motors shall use the distance specified for the next higher impulse category.

Authority: Section 12552, Health and Safety Code

Reference: Section 12552, Health and Safety Code

§1037. Launch Site Standards.

(a) The launch site shall consist of a launching area and a recovery area. The launching area shall consist of an area surrounding the launching devices a radial distance from the launching device as specified in Table 18A above. The recovery area shall consist of the launching area and the minimum area necessary to retrieve the rocket, based on the estimated altitude likely to be achieved by the rocket. These calculations shall take into account the weight of the rocket and the specific type of motor used (or combined total impulse). Table 18B shall be used to determine the minimum launch site dimensions for the various classes of experimental high power rockets.

(b) The launch site shall not be located in any grain field, dry grass, brush or forest covered lands.

(c) The launch site shall not contain any buildings or structures, unless specifically approved in advance by the authority having jurisdiction, and under no circumstances shall such buildings or structures be less than one thousand five hundred feet (1,500 ft.) from the launch site.

(d) The launch site shall not contain any high voltage electrical lines or major highways.

(e) The launch site shall not contain any natural or artificially constructed obstacle deemed

by the authority having jurisdiction to pose a hazard during launching .

(f) The launching area shall be located as near as possible to the center of the launch site but in no case less than seven hundred fifty feet (750 ft.) from the boundary of the launch site.

(g) The launching area shall have appropriate barriers around it such that spectators will be restrained from encroaching upon it. These barriers may be of any type approved by the authority having jurisdiction.

Authority: Section 12552, Health and Safety Code

Reference: Section 12552, Health and Safety Code

TABLE 18B

**MINIMUM EXPERIMENTAL HIGH POWER
ROCKET MOTOR LAUNCH SITE STANDARDS**

**Equivalent Max. Combined Min. Launch
Motor Type Total Impulse Site Dimensions
(N-Seconds) (feet)**

H 320 1,500
I 640 2,500
J 1,280 3,500
K 2,560 5,000
L 5,120 7,000
M 10,240 10,000
N 20,480 15,000

Authority: Section 12552, Health and Safety Code
Reference: Section 12552, Health and Safety Code

§1038. Testing.

At locations approved by the authority having jurisdiction, experimental high power rocket motors may be ignited on the ground for the purpose of determining their performance. All of the following procedures shall be followed during the firing of these motors:

- (a) The experimental high power rocket motor shall be affixed to a testing device or to an immovable structure in such a manner that the motor will not work itself free during the testing or the experimentation process.
- (b) The experimental high power rocket motor shall be ignited only by remotely operated electrical means fully under the control and supervision of the licensed pyrotechnic operator conducting the testing or experimentation.
- (c) The exhaust path of the motor shall be cleared of all flammable objects prior to its firing.
- (d) All persons, whether they are conducting, participating in or observing the testing or experiment, shall stand away from the motor, and particularly its exhaust path, at all times during the test or experiment.
- (e) Under no circumstances shall testing or experimentation of experimental high power rocket motors be conducted indoors.

Authority: Section 12552 Health and Safety Code

Reference: Section 12552, Health and Safety Code

§1039. Supervision and Responsibility.

The licensed pyrotechnic operator in charge of the launch site or test site shall supervise the arming of every experimental high power rocket motor, the launching of all motors, and the disposal of all unwanted or defective motors. The licensed pyrotechnic operator shall also be responsible for the safety of all spectators or observers and all other persons connected with the launching of experimental high power rocket motors.

Authority: Section 12552 Health and Safety Code

Reference: Section 12552, Health and Safety Code

Article 19. Emergency Signaling Devices

§1045. Fire Hazard.

Whenever the authority having jurisdiction declares that the use of an emergency signaling device would create a fire hazard, no emergency signaling device shall be used regardless of its indicated registration and labeling. This prohibition shall continue as long as the fire hazard condition exists in the specific area, as determined by the authority having jurisdiction.

Authority: Section 12552 Health and Safety Code

Reference: Section 12552, Health and Safety Code

§1046. License Required.

Manufacturers of emergency signaling devices whose manufacturing operations take place in California must possess a valid fireworks manufacturing license from the State Fire Marshal to manufacture emergency signaling devices.

Authority: Section 12552, Health and Safety Code

Reference: Sections 12526, 12552 and 12571, Health and Safety Code

Chapter 6.5 Flamethrowing Devices

Article 1. Scope

§ 1054. Scope.

These regulations shall apply to all flamethrowing devices as defined in Health and Safety Code Section 12750 and shall apply to the use, possession, manufacture, storage and transportation of flamethrowing devices as identified above.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Sections 12750 and 12756, Health and Safety Code.

Article 2. Definitions

§1055. Definitions

(a) "C" Definitions

(1) Certificate of Eligibility (COE). A current, valid Certificate of Eligibility issued to an applicant by the Department of Justice pursuant to paragraph (4) of subdivision (a) of Section 12071 of the Penal Code if the department's records and records available to the department in the National Instant Criminal Background Check System indicate that the applicant is not a person who is prohibited by state or federal law from possessing, receiving, owning, or purchasing a firearm.

(b) "F" Definitions

(1) Flamethrowing Device. For the purpose of clarification, Health and Safety Code Section 12750(a) is repeated. Health and Safety Code 12750(a) "Flamethrowing device" means any non-stationary and transportable device designed or intended to emit or propel a burning stream of combustible or flammable liquid a distance of at least 10 feet.

(c) "I" Definitions

(1) Inoperative. A flamethrowing device that meets both of the following:

(A) its fuel source disconnected or removed and

(B) its ignition source or firing mechanism removed.

(2) Inoperative secured. A device or essential part thereof which has been altered, disassembled, deactivated or enclosed by a permit holder or under his or her supervision via a suitable means acceptable to the State Fire Marshal to effectively prevent it from being readily reassembled for use. An inoperative secured device is no longer a flamethrowing device.

(d) "M" Definitions

(1) Motion picture and entertainment purposes. The use, possession, storage, transportation, importation into the state or exportation from the state, manufacture and assembly, design, or testing of flamethrowing devices in connection with television, video, theater, motion picture or entertainment productions, which may or may not be presented before live audiences including training or demonstrations.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Sections 12750 and 12756, Health and Safety Code.

Article.3 Permits

§ 1056. Special Requirements.

(a) A State Fire Marshal Pyrotechnic Operator Special Effects First Class license, as defined in Section 981.5 (b) (7) of California Code of Regulations, Title 19, Division 1, shall serve as a flamethrowing device permit for motion picture and entertainment purposes when accompanied by a current, valid COE issued by the Department of Justice pursuant to paragraph (4) of subdivision (a) of Section 12071 of the Penal Code. Licensees shall provide to the State Fire Marshal a signed copy of the "Application for Flamethrowing Device Permit" and "Flamethrowing Device Self-Certification" forms (See Section 1067). Copies of driver's license, passport photo, and fee for permit are not required.

(b) A State Fire Marshal Pyrotechnic Operator Special Effects Second Class license, as defined in Section 981.5 (b) (8) of California Code of Regulations, Title 19, shall serve as a flamethrowing device permit for motion picture and entertainment purposes when accompanied by a current, valid COE issued by the Department of Justice pursuant to paragraph (4) of subdivision (a) of Section 12071 of the Penal Code. Licensees shall provide to the State Fire Marshal a signed copy of the "Application for Flamethrowing Device Permit" and "Flamethrowing Device Self-Certification" forms (See Section 1067). Copies of driver's license, passport photo, and fee for permit are not required.

(c) A State Fire Marshal Pyrotechnic Operator Special Effects Third Class license, as defined in Section 981.5 (b) (9) of California Code of Regulations, Title 19, shall serve as a flamethrowing device permit for motion picture and entertainment purposes when accompanied by a current, valid COE issued by the Department of Justice pursuant to paragraph (4) of subdivision (a) of Section 12071 of the Penal Code. Flamethrowing devices must be used under the direct and immediate supervision of a First or Second Class Licensee. Licensees shall provide to the State Fire Marshal a signed copy of the "Application for Flamethrowing Device Permit" and "Flamethrowing Device Self-Certification" forms (See Section 1067). Copies of driver's license, passport photo, and fee for permit are not required.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Sections 12756 and 12757, Health and Safety Code.

§ 1057. Exemptions.

(a) Possession of flamethrowing devices which have been rendered inoperative secured, as defined in Section 1055, shall not require a permit pursuant to these regulations.

(b) Persons who only use a flamethrowing device in the course of a theatrical or motion picture/television production are exempt from these permit requirements, when under the direct and immediate supervision of a State Fire Marshal permitted Special Effects First or Second Class licensee.

(c) Persons who are employed by a firefighting agency of the federal government, the state, a city, a county, a city and county, district, public or municipal corporation, or political subdivision of this state, are on duty and are using the flamethrowing device in the course of fire suppression.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Sections 12751, 12756 and 12757, Health and Safety Code.

§ 1058. General.

(a) The State Fire Marshal may issue or renew a flamethrowing device permit provided the applicant meets the provisions of Health and Safety Code Section 12757. For the purpose of clarification, Health and Safety Code Section 12757 is repeated. Health and Safety Code Section 12757, The State Fire Marshal may issue or renew a permit to use and possess a flamethrowing device only if all of the following conditions are met:

(1) The applicant or permitholder is not addicted to any controlled substance.

(2) The applicant or permitholder possesses a current, valid certificate of eligibility issued by the Department of Justice pursuant to paragraph (4) of subdivision (a) of Section 12071 of the Penal Code.

(3) The applicant or permitholder meets the other standards specified in regulations adopted pursuant to Health and Safety Code Section 12756.

(b) Permit holder shall comply with all applicable fire and life safety regulations and ordinances and local zoning restrictions for the use, possession, storage, and/or transportation of flammable/combustible liquids and for flamethrowing devices or their components.

(c) Adequate qualification for the issuance of the requested permit shall be determined by the State Fire Marshal. It shall be incumbent upon the applicant to present to the State Fire Marshal evidence of such qualification which may include a physical demonstration of knowledge and ability.

(d) Permits are nontransferable and shall be retained by the permit holder at all times.

(e) Permits shall be for the fiscal year or portion thereof beginning July 1 and ending June 30 of the following year.

(f) An applicant whose permit was either denied or revoked may reapply after one year has elapsed from date of denial or revocation.

(g) Violation(s) of these regulations shall constitute grounds for denial/revocation of the Flamethrowing Devices Permit.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Sections 12756, 12757 and 12578, Health and Safety Code.

§ 1059. Application for Permit or Renewal.

(a) Applications for Flamethrowing Devices Permit or renewal shall be submitted to the State Fire Marshal on the "Application for Flamethrowing Device Permit" form (See Section 1067) provided by the State Fire Marshal and shall be accompanied by:

(1) A check or money order for the prescribed fee made payable to "CDF/State Fire Marshal",

(2) A copy of the applicant's current driver's license,

(3) A passport photo,

(4) A copy of the applicant's current (COE) issued by the Department of Justice,

(5) A photograph and written description, which describes uniquely, each Flamethrowing device in possession.

(b) Applications for renewal of permit shall be submitted on or before May 1 of the year in which the current Flamethrowing Device Permit expires.

(c) A penalty of 50% of the permit fee shall be assessed in cases where the renewal fee is not paid on or before May 1 of the year in which the current Flamethrowing Devices Permit expires.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Sections 12755, 12756 and 12757, Health and Safety Code.

Article 4. Inspections

§ 1060. General.

(a) The State Fire Marshal or his or her salaried deputies may make an examination of the books and records of any licensee or permit holder relative to flamethrowing devices, and may visit and inspect any building or other premises subject to the control of, or used by, the permit holder/licensee for any purpose related to flamethrowing devices of any permit holder/licensee at any time he or she may deem necessary for the purpose of enforcing the provisions of this chapter.

(b) All flamethrowing devices, storage areas and transportation vehicles shall be subject to inspection by any peace officer or other persons designated by the State Fire Marshal.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Sections 12756 and 12757, Health and Safety Code.

Article 5. Appeals

§ 1061. Permit.

If the State Fire Marshal denies an application for, or the renewal of, or revokes a Flamethrowing Device Permit, the applicant for a Flamethrowing Device Permit or permit holder/licensee shall be entitled to a hearing conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Section 12758, Health and Safety Code.

§ 1062. Seized Devices.

(a) Any person whose flamethrowing devices are seized under the provisions of Health and Safety Code 12760 may, within 10 days after seizure, petition the State Fire Marshal to return the flamethrowing devices seized upon the grounds that the flamethrowing devices were illegally or erroneously seized. Any petition filed pursuant to this section shall be considered by the State Fire Marshal within 15 days after filing or after a hearing granted to the petitioner, if requested. The State Fire Marshal shall advise the petitioner of his or her decision in writing. The decision of the State Fire Marshal is final unless within 60 days after seizure an action is commenced in a court of competent jurisdiction in the State of California for the recovery of the flamethrowing devices seized pursuant to this chapter, except as provided in (b) below.

(b) The decision of the State Fire Marshal is final in the case of the seizure of the flamethrowing device, unless within 20 days after the notice of the decision is mailed to the petitioner an action is commenced in a court of competent jurisdiction in the State of California for the recovery of the flamethrowing devices seized pursuant to this chapter.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Section 12760, Health and Safety Code.

Article 6. Record Keeping

§ 1063. Flamethrowing Device Record Keeping Requirements.

(a) Permit holder/licensee shall maintain records of inventory, acquisitions, dispositions and/or manufacture of flamethrowing devices.

(b) Permit holders/licenses who sell, donate or otherwise relinquish possession of a flamethrowing device within California shall only do so to a person who holds a current Flamethrowing Device Permit issued by the State Fire Marshal. Permit holders/licenses who sell, donate or otherwise relinquish from their possession a flamethrowing device shall record the disposition including the date of the sale, donation, or other relinquishment, and the name, address and phone number, and the applicable permit number of the party receiving the device.

(c) Permit holders/licensees who sell, donate or otherwise relinquish from their possession a flamethrowing device shall notify the State Fire Marshal, in writing, of the transaction within 3 calendar days of the transaction. The report shall include date of the sale, donation, or other relinquishment, and the name, address, phone number, and the applicable permit number of the party receiving the device.

(d) Permit holder/licensee shall immediately report any loss or theft of a flamethrowing device to the local law enforcement agency and the State Fire Marshal, and within 10 calendar days a written report shall be submitted to the State Fire Marshal. The report to the State Fire Marshal shall include:

- (1) Permit holder/licensee Flamethrowing Device Permit number,
- (2) The date of the loss or theft,
- (3) The location at which the loss or theft occurred,
- (4) Description of the flamethrowing device and
- (5) A detailed description of how the loss or theft occurred.

(e) All records required by this regulation shall be retained by the permit holder/licensee for a period of not less than 36 months. All records required by these regulations shall be made available by the permit holder/licensee to any peace officer or other persons designated by the State Fire Marshal when requested.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Section 12756, Health and Safety Code.

Article 7. Storage and Transportation Requirements for Flamethrowing Devices

§ 1064. Storage.

(a) Flamethrowing devices shall only be stored in facilities which meet reasonable security, fire and life safety requirements in one of the following manners:

(1) In facilities that meet the California Department of Justice security requirements described in California Code of Regulations, Title 11, Section 4141.

(2) In appropriate magazines or facilities which are permitted by the authority having jurisdiction for the storage of fireworks or explosives pursuant to California Code of Regulations, Title 19, Division 1, Section 989, provided that no fire nuisance or incompatibility is created by such storage.

(3) Facilities meeting all of the following requirements:

(i) All perimeter doors to the building shall be solid core and have dead-bolt locks or the equivalent. Sliding glass doors and windows shall have steel window guards or be connected to an audible or silent alarm to detect entry,

(ii) All doors leading into the storage room shall be solid core with a dead-bolt lock or the equivalent and be locked while unattended, or the flamethrowing device shall be stored in an anchored, locked metal box in the room. In lieu of the anchored, locked metal box, the flamethrowing device may be stored in a Class II magazine conforming to California Code of Regulations, Title 19, Division 1, Chapter 10, Subchapter 5, Article 15,

(iii) When the size of the flamethrowing devices prohibits storage in a room of a business, the flamethrowing devices shall be secured to prohibit easy removal, and the ignition source/firing mechanism shall be removed and stored in a separate locked room, cabinet, or box in an area separate from the storage area of the flamethrowing devices,

(iv) All accesses to the indoor storage area shall be designed to prevent unauthorized entry,

(v) All locking or security devices required by these regulations shall be maintained in good operating condition at all times.

(b) Flammable or combustible fuels shall be stored in accordance with the California Fire Code.

(c) Operative flamethrowing devices shall not be stored in residences.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Section 12756, Health and Safety Code.

§ 1065. Transportation.

(a) The transportation of flamethrowing devices shall meet the following security, fire, and life safety requirements:

(1) When the size or quantity of flamethrowing devices permits storage inside the vehicle, the flamethrowing devices shall be transported either concealed in the locked storage area of the vehicle or in a locked metal box or the equivalent which is permanently affixed to the vehicle.

(2) When the size or quantity of the flamethrowing devices prohibit the storage inside the vehicle or trailer, a locking device connecting the flamethrowing device to the vehicle or trailer is required.

(3) The locking mechanisms shall be able to resist common tools such as bolt cutters, hammers and cold chisels.

(4) If the flamethrowing device is mounted on its own axle or transported on a trailer, the trailer shall be rendered incapable of unauthorized movement while connected or disconnected from the tow vehicle.

(5) All locking or security devices required by these regulations shall be maintained in good operating condition at all times.

(6) Flamethrowing devices shall be constantly attended during transportation.

(7) Inoperative flamethrowing devices need not be constantly attended provided the vehicle is locked while unattended.

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Section 12756, Health and Safety Code.

Article 8. Fees

§ 1066. General.

(a) The original and annual renewal fee for a permit shall be for the fiscal year or portion thereof beginning July 1 and ending June 30 of the following year.

(b) Every permit fee required in accordance with these regulations shall be paid by check or money order made payable to the "CDF/State Fire Marshal."

(c) Required fees shall be submitted jointly with the appropriate application. Such fees are non-refundable.

(d) Fees are as follows:

(1) Flamethrowing Device Permit Original or Annual renewal \$425

(2) Replacement permit (issued only if the original is lost or destroyed) \$25

Note: Authority cited: Section 12759, Health and Safety Code. Reference: Section 12759, Health and Safety Code.

Article 9. Forms

§ 1067. Application Form.

(a) The following forms in the format developed by the Office of the State Fire Marshal, which are hereby incorporated by reference, shall be used for application for flamethrowing device permit or flamethrowing device self-certification.

(1) Application for Flamethrowing Device Permit (FT1 dated April 1, 2010)

(2) Flamethrowing Device Self-Certification Form (FT 2 dated April 1, 2010)

Note: Authority cited: Section 12756, Health and Safety Code. Reference: Section 12756, Health and Safety Code.

Title 27, Code of Federal Regulations, Part 55,
Sub-part K

STORAGE

Sec. 55.201 General.

(a) Section 842(j) of the Act and Sec. 55.29 of this part require that the storage of explosive materials by any person must be in accordance with the regulations in this part. Further, section 846 of this Act authorizes regulations to prevent the recurrence of accidental explosions in which explosive materials were involved. The storage standards prescribed by this subpart confer no right or privileges to store explosive materials in a manner contrary to State or local law.

(b) The Director may authorize alternate construction for explosives storage magazines when it is shown that the alternate magazine construction is substantially equivalent to the standards of safety and security contained in this subpart. Any alternate explosive magazine construction approved by the Director prior to August 9, 1982, will continue as approved unless notified in writing by the Director. Any person intending to use alternate magazine construction shall submit a letter application to the regional director (compliance) for transmittal to the Director, specifically describing the proposed magazine. Explosive materials may not be stored in alternate magazines before the applicant has been notified that the application has been approved.

(c) A licensee or permittee who intends to make changes in his magazines, or who intends to construct or acquire additional magazines, shall comply with Sec. 55.63.

(d) The regulations set forth in Sec. Sec. 55.221 through 55.224 pertain to the storage of display fireworks, pyrotechnic compositions, and explosive materials used in assembling fireworks and articles pyrotechnic.

(e) The provisions of Sec. 55.202(a) classifying flash powder and bulk salutes as high explosives are mandatory after March 7, 1990: Provided, that those persons who hold licenses or permits under this part on that date shall, with respect to the premises covered by such licenses or permits, comply with the high explosives storage requirements for flash powder and bulk salutes by March 7, 1991.

(f) Any person who stores explosive materials shall notify the authority having jurisdiction for fire safety in the locality in which the explosive materials are being stored of the type, magazine capacity, and location of each site where such explosive materials are stored. Such notification shall be made orally before the end of the day on which storage of the explosive materials commenced and in writing within 48 hours from the time such storage commenced.

Sec. 55.202 Classes of explosive materials.

For purposes of this part, there are three classes of explosive materials. These classes, together with the description of explosive materials comprising each class, are as follows:

(a) High explosives. Explosive materials which can be caused to detonate by means of a blasting cap when unconfined, (for example, dynamite, flash powders, and bulk salutes). See also Sec. 55.201(e)

(b) Low explosives. Explosive materials which can be caused to deflagrate when confined (for example, black powder, safety fuses, igniters, igniter cords, fuse lighters, and "display fireworks" classified as UN0333, UN0334, or UN0335 by the U.S. Department of Transportation regulations at 49 CFR 172.101, except for bulk salutes).

(c) Blasting agents. (For example, ammonium nitrate-fuel oil and certain water-gels (see also Sec. 55.11)).

Sec. 55.203 Types of magazines.

For purposes of this part, there are five types of magazines. These types, together with the classes of explosive materials, as defined in Sec. 55.202, which will be stored in them, are as follows:

(a) Type 1 magazines. Permanent magazines for the storage of high explosives, subject to the limitations prescribed by Secs. 55.206 and 55.213. Other classes of explosive materials may also be stored in type 1 magazines.

(b) Type 2 magazines. Mobile and portable indoor and outdoor magazines for the storage of high explosives, subject to the limitations prescribed by Secs. 55.206, 55.208(b), and 55.213. Other classes of explosive materials may also be stored in type 2 magazines.

(c) Type 3 magazines. Portable outdoor magazines for the temporary storage of high explosives while attended (for example, a "day-box"), subject to the limitations prescribed by Secs. 55.206 and 55.213. Other classes of explosives materials may also be stored in type 3 magazines.

(d) Type 4 magazines. Magazines for the storage of low explosives, subject to the limitations prescribed by Secs. 55.206(b), 55.210(b), and 55.213. Blasting agents may be stored in type 4 magazines, subject to the limitations prescribed by Secs. 55.206(c), 55.211(b), and 55.213. Detonators that will not mass detonate may also be stored in type 4 magazines, subject to the limitations prescribed by Secs. 55.206(a), 55.210(b), and 55.213.

(e) Type 5 magazines. Magazines for the storage of blasting agents, subject to the limitations prescribed by Secs. 55.206(c), 55.211(b), and 55.213.

Sec. 55.204 Inspection of magazines.

Any person storing explosive materials shall inspect his magazines at least every seven days. This inspection need not be an inventory, but must be sufficient to determine whether there has been unauthorized entry or attempted entry into the magazines, or unauthorized removal of the contents of the magazines.

Sec. 55.205 Movement of explosive materials.

All explosive materials must be kept in locked magazines meeting the standards in this subpart unless they are:

- (a) In the process of manufacture;
- (b) Being physically handled in the operating process of a licensee or user;
- (c) Being used; or
- (d) Being transported to a place of storage or use by a licensee or permittee or by a person who has lawfully acquired explosive materials under Sec. 55.106.

Sec. 55.206 Location of magazines.

(a) Outdoor magazines in which high explosives are stored must be located no closer to inhabited buildings, passenger railways, public highways, or other magazines in which high explosives are stored, than the minimum distances specified in the table of distances for storage of explosive materials in Sec. 55.218.

(b) Outdoor magazines in which low explosives are stored must be located no closer to inhabited buildings, passenger railways, public highways, or other magazines in which explosive materials are stored, than the minimum distances specified in the table of distances for storage of low explosives in Sec. 55.219, except that the table of distances in Sec. 55.224 shall apply to the storage of display fireworks. The distances shown in Sec. 55.219 may not be reduced by the presence of barricades.

(c)(1) Outdoor magazines in which blasting agents in quantities of more than 50 pounds are stored must be located no closer to inhabited buildings, passenger railways, or public highways than the minimum distances specified in the table of distances for storage of explosive materials in Sec. 55.218.

(2) Ammonium nitrate and magazines in which blasting agents are stored must be located no closer to magazines in which high explosives or other blasting agents are stored than the minimum distances specified in the table of distances for the separation of ammonium nitrate and blasting agents in Sec. 55.220. However, the minimum distances for magazines in which explosives and blasting agents are stored from inhabited buildings, etc., may not be less than the distances specified in the table of distances for storage of explosives materials in Sec. 55.218.

Sec. 55.207 Construction of type 1 magazines.

A type 1 magazine is a permanent structure: a building, an igloo or "Army-type structure", a tunnel, or a dugout. It is to be bullet-resistant, fire-resistant, weather-resistant, theft-resistant, and ventilated.

(a) Buildings. All building type magazines are to be constructed of masonry, wood, metal, or a combination of these materials, and have no openings except for entrances and ventilation. The ground around building magazines must slope away for drainage or other adequate drainage provided.

(1) Masonry wall construction. Masonry wall construction is to consist of brick, concrete, tile, cement block, or cinder block and be not less than 6 inches in thickness. Hollow masonry units used in construction must have all hollow spaces filled with well-tamped, coarse, dry sand or weak concrete (at least a mixture of one part cement and eight parts of sand with enough water to dampen the mixture while tamping in place). Interior walls are to be constructed of, or covered with, a non-sparking material.

(2) Fabricated metal wall construction. Metal wall construction is to consist of sectional sheets of steel or aluminum not less than number 14-gauge, securely fastened to a metal framework. Metal wall construction is either lined inside with brick, solid cement blocks, hardwood not less than four inches thick, or will have at least a six inch sand fill between interior and exterior walls. Interior walls are to be constructed of, or covered with, a non-sparking material.

(3) Wood frame wall construction. The exterior of outer wood walls is to be covered with iron or aluminum not less than number 26-gauge. An inner wall of, or covered with non-sparking material will be constructed so as to provide a space of not less than six inches between the outer and inner walls. The space is to be filled with coarse, dry sand or weak concrete.

(4) Floors. Floors are to be constructed of, or covered with, a non-sparking material and shall be strong enough to bear the weight of the maximum quantity to be stored. Use of pallets covered with a non-sparking material is considered equivalent to a floor constructed of or covered with a non-sparking material.

(5) Foundations. Foundations are to be constructed of brick, concrete, cement block, stone, or wood posts. If piers or posts are used, in lieu of a continuous foundation, the space under the buildings is to be enclosed with metal.

(6) Roof. Except for buildings with fabricated metal roofs, the outer roof is to be covered with no less than number 26-gauge iron or aluminum, fastened to at least (7/8) inch sheathing.

(7) Bullet-resistant ceilings or roofs. Where it is possible for a bullet to be fired directly through the roof and into the magazine at such an angle that the bullet would strike the explosives within, the magazine is to be protected by one of the following methods:

(i) A sand tray lined with a layer of building paper, plastic, or other nonporous material, and filled with not less than four inches of coarse, dry sand, and located at the tops of inner walls covering the entire ceiling area, except that portion necessary for ventilation.

(ii) A fabricated metal roof constructed of 3/16-inch plate steel lined with four inches of hardwood. (For each additional 1/16 inch of plate steel, the hardwood lining may be decreased one inch.)

(8) Doors. All doors are to be constructed of not less than 1/4 inch plate steel and lined with at least two inches of hardwood. Hinges and hasps are to be attached to the doors by welding, riveting or bolting (nuts on inside of door). They are to be installed in such a manner that the hinges and hasps cannot be removed when the doors are closed and locked.

(9) Locks. Each door is to be equipped with (i) two mortise locks; (ii) two padlock fastened in separate hasps and staples; (iii) a combination of a mortise lock and a padlock; (iv) a mortise lock that requires two keys to open; or (v) a three-point lock. Padlocks must have at least five tumblers and a casehardened shackle of at least 3/8 inch diameter. Padlocks must be protected with not less than 1/4 inch steel hoods constructed so as to prevent sawing or lever action on the locks, hasps, and staples. These requirements do not apply to magazine doors that are adequately secured on the inside by means of a bolt, lock, or bar that cannot be actuated from the outside.

(10) Ventilation. Ventilation is to be provided to prevent dampness and heating of stored explosive materials. Ventilation openings must be screened to prevent the entrance of sparks. Ventilation openings in sidewalls and foundations must be offset or shielded for bullet-resistant purposes. Magazines having foundation and roof ventilators with the air circulating between the side walls and the floors and between the side walls and the ceiling must have a wooden lattice lining or equivalent to prevent the packages of explosive materials from being stacked against the side walls and blocking the air circulation.

(11) Exposed metal. No sparking material is to be exposed to contact with the stored explosive materials. All ferrous metal nails in the floor and sidewalls, which might be exposed to contact with explosive materials, must be blind nailed, countersunk, or covered with a non-sparking latticework or other non-sparking material.

(b) Igloos, "Army-type structures", tunnels, and dugouts. Igloo, "Army-type structure", tunnel, and dugout magazines are to be constructed of reinforced concrete, masonry, metal, or a combination of these materials. They must have an earth mound covering of not less than 24 inches on the top, sides and rear unless the magazine meets the requirements of paragraph (a)(7) of this section. Interior walls and floors must be constructed of, or covered with, a non-sparking material. Magazines of this type are also to be constructed in conformity with the requirements of paragraph (a)(4) and paragraphs (a)(8) through (11) of this section.

Sec. 55.208 Construction of type 2 magazines.

A type 2 magazine is a box, trailer, semi trailer, or other mobile facility.

(a) Outdoor magazines

(1) General. Outdoor magazines are to be bullet-resistant, fire-resistant, weather-resistant, theft-resistant, and ventilated. They are to be supported to prevent direct contact with the ground and, if less than one cubic yard in size, must be securely fastened to a fixed object. The ground around outdoor magazines must slope away for drainage or other adequate drainage provided. When unattended, vehicular magazines must have wheels removed or otherwise effectively immobilized by kingpin locking devices or other methods approved by the Director.

(2) Exterior construction. The exterior and doors are to be constructed of not less than 1/4-inch steel and lined with at least two inches of hardwood. Magazines with top openings will have lids with water-resistant seals or which overlap the sides by at least one inch when in a closed position.

(3) Hinges and hasps. Hinges and hasps are to be attached to doors by welding, riveting, or bolting (nuts on inside of door). Hinges and hasps must be installed so that they cannot be removed when the doors are closed and locked.

(4) Locks. Each door is to be equipped with (i) two mortise locks; (ii) two padlocks fastened in separate hasps and staples; (iii) a combination of a mortise lock and a padlock; (iv) a mortise lock that requires two keys to open; or (v) a three-point lock. Padlocks must have at least five tumblers and a case-hardened shackle of at least 3/8-inch diameter. Padlocks must be protected with not less than 1/4-inch steel hoods constructed so as to prevent sawing or lever action on the locks, hasps, and staples. These requirements do not apply to magazine doors that are adequately secured on the inside by means of a bolt, lock, or bar that cannot be actuated from the outside.

(b) Indoor magazines

(1) General. Indoor magazines are to be fire-resistant and theft-resistant. They need not be bullet-resistant and weather-resistant if the buildings in which they are stored provide protection from the weather and from bullet penetration. No indoor magazine is to be located in a residence or dwelling. The indoor storage of high explosives must not exceed a quantity of 50 pounds. More than one indoor magazine may be located in the same building if the total quantity of explosive materials stored does not exceed 50 pounds. Detonators must be stored in a separate magazine (except as provided in Sec. 55.213) and the total quantity of detonators must not exceed 5,000.

(2) Exterior construction. Indoor magazines are to be constructed of wood or metal according to one of the following specifications:

(i) Wood indoor magazines are to have sides, bottoms and doors constructed of at least two inches of hardwood and are to be well braced at the corners. They are to be covered with sheet metal of not less than number 26-gauge (.0179 inches). Nails exposed to the interior of magazines must be countersunk.

(ii) Metal indoor magazines are to have sides, bottoms and doors constructed of not less than number 12-gauge (.1046 inches) metal and be lined inside with a non-sparking material. Edges of metal covers must overlap sides at least one inch.

(3) Hinges and hasps. Hinges and hasps are to be attached to doors by welding, riveting, or bolting (nuts on inside of door). Hinges and hasps must be installed so that they cannot be removed when the doors are closed and locked.

(4) Locks. Each door is to be equipped with (i) two mortise locks; (ii) two padlocks fastened in separate hasps and staples; (iii) a combination of a mortise lock and a padlock; (iv) a mortise lock that requires two keys to open; or (v) a three-point lock. Padlocks must have at least five tumblers and a case-hardened shackle of at least 3/8-inch diameter. Padlocks must be protected with not less than 1/4-inch steel hoods constructed so as to prevent sawing or lever action on the locks, hasps, and staples. Indoor magazines located in secure rooms that are locked as provided in this subparagraph may have each door locked with one steel padlock (which need not be protected by a steel hood) having at least five tumblers and a case-hardened shackle of at least 3/8-inch diameter, if the door hinges and lock hasp are securely fastened to the magazine. These requirements do not apply to magazine doors that are adequately secured on the inside by means of a bolt, lock, or bar that cannot be actuated from the outside.

(c) Detonator boxes. Magazines for detonators in quantities of 100 or less are to have sides, bottoms and doors constructed of not less than number 12-gauge (.1046 inches) metal and lined with a non-sparking material. Hinges and hasps must be attached so they cannot be removed from the outside. One steel padlock (which need not be protected by a steel hood) having at least five tumblers and a case-hardened shackle of at least 3/8-inch diameter is sufficient for locking purposes.

Sec. 55.209 Construction of type 3 magazines.

A type 3 magazine is a "day-box" or other portable magazine. It must be fire-resistant, weather-resistant, and theft-resistant. A type 3 magazine is to be constructed of not less than number 12-gauge (.1046 inches) steel, lined with at least either 1/2-inch plywood or 1/2-inch Masonite-type hardboard. Doors must overlap sides by at least one inch. Hinges and hasps are to be attached by welding, riveting or bolting (nuts on inside). One steel padlock (which need not be protected by a steel hood) having at least five tumblers and a case-hardened shackle of at least 3/8-inch diameter is sufficient for locking purposes. Explosive materials are not to be left unattended in type 3 magazines and must be removed to type 1 or 2 magazines for unattended storage.

Sec. 55.210 Construction of type 4 magazines.

A type 4 magazine is a building, igloo or "Army-type structure", tunnel, dugout, box, trailer, or a semi trailer or other mobile magazine.

(a) Outdoor magazines

(1) General. Outdoor magazines are to be fire-resistant, weather-resistant, and theft-resistant. The ground around outdoor magazines must slope away for drainage or other adequate drainage be provided. When unattended, vehicular magazines must have wheels removed or otherwise be effectively immobilized by kingpin locking devices or other methods approved by the Director.

(2) Construction. Outdoor magazines are to be constructed of masonry, metal-covered wood, fabricated metal, or a combination of these materials. Foundations are to be constructed of brick, concrete, cement block, stone, or metal or wood posts. If piers or posts are used, in lieu of a continuous foundation, the space under the building is to be enclosed with fire-resistant material. The walls and floors are to be constructed of, or covered with, a non-sparking material or lattice work. The doors must be metal or solid wood covered with metal.

(3) Hinges and hasps. Hinges and hasps are to be attached to doors by welding, riveting, or bolting (nuts on inside of door). Hinges and hasps must be installed so that they cannot be removed when the doors are closed and locked.

(4) Locks. Each door is to be equipped with (i) two mortise locks; (ii) two padlocks fastened in separate hasps and staples; (iii) a combination of a mortise lock and a padlock; (iv) a mortise lock that requires two keys to open; or (v) a three-point lock. Padlocks must have at least five tumblers and case-hardened shackle of at least 3/8 inch diameter. Padlocks must be protected with not less than 1/4 inch steel hoods constructed so as to prevent sawing or lever action on the locks, hasps, and staples. These requirements do not apply to magazine doors that are adequately secured on the inside by means of a bolt, lock, or bar that cannot be actuated from the outside.

(b) Indoor magazine

(1) General. Indoor magazines are to be fire-resistant and theft-resistant. They need not be weather-resistant if the buildings in which they are stored provide protection from the weather. No indoor magazine is to be located in a residence or dwelling. The indoor storage of low explosives must not exceed a quantity of 50 pounds. More than one indoor magazine may be located in the same building if the total quantity of explosive materials stored does not exceed 50 pounds. Detonators that will not mass detonate must be stored in a separate magazine and the total number of electric detonators must not exceed 5,000.

(2) Construction. Indoor magazines are to be constructed of masonry, metal-covered wood, fabricated metal, or a combination of these materials. The walls and floors are to be constructed of, or covered with, a non-sparking material. The doors must be metal or solid wood covered with metal.

(3) Hinges and hasps. Hinges and hasps are to be attached to doors by welding, riveting, or bolting (nuts on inside of door). Hinges and hasps must be installed so that they cannot be removed when the doors are closed and locked.

(4) Locks. Each door is to be equipped with (i) two mortise locks; (ii) two padlocks fastened in separate hasps and staples; (iii) a combination of a mortise lock and padlock; (iv) a mortise lock that requires two keys to open; or (v) a three-point lock. Padlocks must have at least five tumblers and a case-hardened shackle of at least 3/8 inch diameter. Padlocks must be protected with not less than 1/4 inch steel hoods constructed so as to prevent sawing or lever action on the locks, hasps, and staples. Indoor magazines located in secure rooms that are locked as provided in this subparagraph may have each door locked with one steel padlock (which need not be protected by a steel hood) having at least five tumblers and a case-hardened shackle of at least 3/8 inch diameter, if the door hinges and lock hasp are securely fastened to the magazine. These requirements do not apply to magazine doors that are adequately secured on the inside by means of a bolt, lock, or bar that cannot be actuated from the outside.

Sec. 55.211 Construction of type 5 magazines.

A type 5 magazine is a building, igloo or "Army-type structure", tunnel, dugout, bin, box, trailer, or a semi trailer or other mobile facility.

(a) Outdoor magazines

(1) General. Outdoor magazines are to be weather-resistant and theft-resistant. The ground around magazines must slope away for drainage or other adequate drainage be provided. When unattended, vehicular magazines must have wheels removed or otherwise be effectively immobilized by kingpin locking devices or other methods approved by the Director.

(2) Construction. The doors are to be constructed of solid wood or metal.

(3) Hinges and hasps. Hinges and hasps are to be attached to doors by welding, riveting, or bolting (nuts on inside of door). Hinges and hasps must be installed so that they cannot be removed when the doors are closed and locked.

(4) Locks. Each door is to be equipped with (i) two mortise locks; (ii) two padlocks fastened in separate hasps and staples; (iii) a combination of a mortise lock and a padlock; (iv) a mortise lock that requires two keys to open; or (v) a three-point lock. Padlocks must have at least five tumblers and a case-hardened shackle of at least 3/8 inch diameter. Padlocks must be protected with not less than 1/4 inch steel hoods constructed so as to prevent sawing or lever action on the locks, hasps, and staples. Trailers, semi trailers, and similar vehicular magazines may, for each door, be locked with one steel padlock (which need not be protected by a steel hood) having at least five tumblers and a case-hardened shackle of at least 3/8 inch diameter, if the door hinges and lock hasp are securely fastened to the magazine and to the door frame. These requirements do not apply to magazine doors that are adequately secured on the inside by means of a bolt, lock, or bar that cannot be actuated from the outside.

(5) Placards. The placards required by Department of Transportation regulations at 49 CFR part 172, subpart F, for the transportation of blasting agents shall be displayed on all magazines.

(b) Indoor magazines

(1) General. Indoor magazines are to be theft-resistant. They need not be weather-resistant if the buildings in which they are stored provide protection from the weather. No indoor magazine is to be located in a residence or dwelling. Indoor magazines containing quantities of blasting agents in excess of 50 pounds are subject to the requirements of Sec. 55.206 of this subpart.

(2) Construction. The doors are to be constructed of wood or metal.

(3) Hinges and hasps. Hinges and hasps are to be attached to doors by welding, riveting, or bolting (nuts on inside). Hinges and hasps must be installed so that they cannot be removed when the doors are closed and locked.

(4) Locks. Each door is to be equipped with (i) two mortise locks; (ii) two padlocks fastened in separate hasps and staples; (iii) a combination of a mortise lock and a padlock; (iv) a mortise lock that requires two keys to open; or (v) a three-point lock. Padlocks must have at least five tumblers and a case-hardened shackle of at least 3/8 inch diameter. Padlocks must be protected with not less than 1/4 inch steel hoods constructed so as to prevent sawing or lever action on the locks, hasps, and staples. Indoor magazines located in secure rooms that are locked as provided in this subparagraph may have each door locked with one steel padlock (which need not be protected by a steel hood) having at least five tumblers and a case-hardened shackle of at least 3/8 inch diameter, if the door hinges and lock hasps are securely fastened to the magazine and to the door frame. These requirements do not apply to magazine doors that are adequately secured on the inside by means of a bolt, lock, or bar that cannot be actuated from the outside.

Sec. 55.212 Smoking and open flames.

Smoking, matches, open flames, and spark producing devices are not permitted:

- (a) In any magazine;
- (b) Within 50 feet of any outdoor magazine; or
- (c) Within any room containing an indoor magazine.

Sec. 55.213 Quantity and storage restrictions.

(a) Explosive materials in excess of 300,000 pounds or detonators in excess of 20 million are not to be stored in one magazine unless approved by the Director.

(b) Detonators are not to be stored in the same magazine with other explosive materials, except under the following circumstances:

- (1) In a type 4 magazine, detonators that will not mass detonate may be stored with electric squibs, safety fuse, igniters, and igniter cord.
- (2) In a type 1 or type 2 magazine, detonators may be stored with delay devices and any of the items listed in paragraph (b)(1) of this section.

Sec. 55.214 Storage within types 1, 2, 3, and 4 magazines.

(a) Explosive materials within a magazine are not to be placed directly against interior walls and must be stored so as not to interfere with ventilation. To prevent contact of stored explosive materials with walls, a non-sparking lattice work or other non-sparking material may be used.

(b) Containers of explosive materials are to be stored so that marks are visible. Stocks of explosive materials are to be stored so they can be easily counted and checked upon inspection.

(c) Except with respect to fiberboard or other nonmetal containers, containers of explosive materials are not to be unpacked or repacked inside a magazine or within 50 feet of a magazine, and must not be unpacked or repacked close to other explosive materials. Containers of explosive materials must be closed while being stored.

(d) Tools used for opening or closing containers of explosive materials are to be of non-sparking materials, except that metal slitters may be used for opening fiberboard containers. A wood wedge and a fiber, rubber, or wooden mallet are to be used for opening or closing wood containers of explosive materials. Metal tools other than non-sparking transfer conveyors are not to be stored in any magazine containing high explosives.

Sec. 55.215 Housekeeping.

Magazines are to be kept clean, dry, and free of grit, paper, empty packages and containers, and rubbish. Floors are to be regularly swept. Brooms and other utensils used in the cleaning and maintenance of magazines must have no spark-producing metal parts, and may be kept in magazines. Floors stained by leakage from explosive materials are to be cleaned according to instructions of the explosives manufacturer. When any explosive material has deteriorated it is to be destroyed in accordance with the advice or instructions of the manufacturer. The area surrounding magazines is to be kept clear of rubbish, brush, dry grass, or trees (except live trees more than 10 feet tall), for not less than 25 feet in all directions. Volatile materials are to be kept a distance of not less than 50 feet from outdoor magazines. Living foliage which is used to stabilize the earthen covering of a magazine need not be removed.

Sec. 55.216 Repair of magazines.

Before repairing the interior of magazines, all explosive materials are to be removed and the interior cleaned. Before repairing the exterior of magazines, all explosive materials must be removed if there exists any possibility that repairs may produce sparks or flame. Explosive materials removed from magazines under repair must be

(a) placed in other magazines appropriate for the storage of those explosive materials under this subpart, or

(b) placed a safe distance from the magazines under repair where they are to be properly guarded and protected until the repairs have been completed.

Sec. 55.217 Lighting.

(a) Battery-activated safety lights or battery-activated safety lanterns may be used in explosives storage magazines.

(b) Electric lighting used in any explosives storage magazine must meet the standards prescribed by the "National Electrical Code," (National Fire Protection Association, NFPA 70-81), for the conditions present in the magazine at any time. All electrical switches are to be located outside of the magazine and also meet the standards prescribed by the National Electrical Code.

(c) Copies of invoices, work orders or similar documents which indicate the lighting complies with the National Electrical Code must be available for inspection by ATF officers.

Sec. 55.219 Table of distances for storage of low explosives.

Pounds		From inhabited building distance (feet)	From public railroad and highway distance (feet)	From above ground magazine (feet)
Over	Not over			
0	1,000	75	75	50
1,000	5,000	115	115	75
5,000	10,000	150	150	100
10,000	20,000	190	190	125
20,000	30,000	215	215	145
30,000	40,000	235	235	155
40,000	50,000	250	250	165
50,000	60,000	260	260	175
60,000	70,000	270	270	185
70,000	80,000	280	280	190
80,000	90,000	295	295	195
90,000	100,000	300	300	200
100,000	200,000	375	375	250
200,000	300,000	450	450	300

Sec. 55.220 Table of separation distances of ammonium nitrate and blasting agents from explosives or blasting agents.

Table: Department of Defense Ammunition and Explosives Standards, Table 5-4.1 Extract; 4145.27 M, March 1969

Donor weight (pounds)		Minimum separation distance of acceptor from donor when barricaded (ft.)		Minimum thickness of artificial barricades (in.)
Over	Not over	Ammonium nitrate	Blasting agent	
0	100	3	11	12
100	300	4	14	12
300	600	5	18	12
600	1,000	6	22	12
1,000	1,600	7	25	12
1,600	2,000	8	29	12
2,000	3,000	9	32	15
3,000	4,000	10	36	15
4,000	6,000	11	40	15
6,000	8,000	12	43	20
8,000	10,000	13	47	20
10,000	12,000	14	50	20
12,000	16,000	15	54	25
16,000	20,000	16	58	25
20,000	25,000	18	65	25
25,000	30,000	19	68	30
30,000	35,000	20	72	30
35,000	40,000	21	76	30
40,000	45,000	22	79	35
45,000	50,000	23	83	35
50,000	55,000	24	86	35
55,000	60,000	25	90	35
60,000	70,000	26	94	40
70,000	80,000	28	101	40
80,000	90,000	30	108	40
90,000	100,000	32	115	40
100,000	120,000	34	122	50
120,000	140,000	37	133	50
140,000	160,000	40	144	50
160,000	180,000	44	158	50
180,000	200,000	48	173	50
200,000	220,000	52	187	60
220,000	250,000	56	202	60
250,000	275,000	60	216	60
275,000	300,000	64	230	60

Table: National Fire Protection Association (NFPA) Official Standard No. 492, 1968

Notes of Table of Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents

(1) This table specifies separation distances to prevent explosion of ammonium nitrate and ammonium nitrate-based blasting agents by propagation from nearby stores of high explosives or blasting agents referred to in the table as the "donor." Ammonium nitrate, by itself, is not considered to be a donor when applying this table. Ammonium nitrate, ammonium nitrate-fuel oil or combinations thereof are acceptors. If stores of ammonium nitrate are located within the sympathetic detonation distance of explosives or blasting agents, one-half the mass of the ammonium nitrate is to be included in the mass of the donor.

(2) When the ammonium nitrate and/or blasting agent is not barricaded, the distances shown in the table must be multiplied by six. These distances allow for the possibility of high velocity metal fragments from mixers, hoppers, truck bodies, sheet metal structures, metal containers, and the like which may enclose the "donor." Where explosives storage is in bullet-resistant magazines or where the storage is protected by a bullet-resistant wall, distances and barricade thicknesses in excess of those prescribed in the table in Sec. 55.218 are not required.

(3) These distances apply to ammonium nitrate that passes the insensitivity test prescribed in the definition of ammonium nitrate fertilizer issued by the Fertilizer Institute.¹ Ammonium nitrate failing to pass the test must be stored at separation distances in accordance with the table in Sec. 55.218.

¹ Definition and Test Procedures for Ammonium Nitrate Fertilizer, Fertilizer Institute 1015-18th St. N.W. Washington, DC 20036.

(4) These distances apply to blasting agents which pass the insensitivity test prescribed in regulations of the U.S. Department of Transportation (49 CFR part 173).

(5) Earth or sand dikes, or enclosures filled with the prescribed minimum thickness of earth or sand are acceptable artificial barricades. Natural barricades, such as hills or timber of sufficient density that the surrounding exposures which require protection cannot be seen from the "donor" when the trees are bare of leaves, are also acceptable.

(6) For determining the distances to be maintained from inhabited buildings, passenger railways, and public highways, use the table in Sec. 55.218.

Sec. 55.221 Requirements for display fireworks, pyrotechnic compositions, and explosive materials used in assembling fireworks or articles pyrotechnic.

(a) Display fireworks, pyrotechnic compositions, and explosive materials used to assemble fireworks and articles pyrotechnic shall be stored at all times as required by this Subpart unless they are in the process of manufacture, assembly, packaging, or are being transported.

(b) No more than 500 pounds (227 kg) of pyrotechnic compositions or explosive materials are permitted at one time in any fireworks mixing building, any building or area in which the pyrotechnic compositions or explosive materials are pressed or otherwise prepared for finishing or assembly, or any finishing or assembly building. All pyrotechnic compositions or explosive materials not in immediate use will be stored in covered, non-ferrous containers.

(c) The maximum quantity of flash powder permitted in any fireworks process building is 10 pounds (4.5 kg).

(d) All dry explosive powders and mixtures, partially assembled display fireworks, and finished display fireworks shall be removed from fireworks process buildings at the conclusion of a day's operations and placed in approved magazines.

Sec. 55.222 Table of distances between fireworks process buildings and between fireworks process and fireworks nonprocess buildings.

Net weight of fireworks (1) (pounds)	Display fireworks (2) (feet)	Consumer fireworks (3) (feet)
0-100	57	37
101-200	69	37
201-300	77	37
301-400	85	37
401-500	91	37
Above 500	Not permitted (4) (5)	Not permitted (4) (5)

(1) Net weight is the weight of all pyrotechnic compositions, and explosive materials and fuse only.

(2) The distances in this column apply only with natural or artificial barricades. If such barricades are not used, the distances must be doubled.

(3) While consumer fireworks or articles pyrotechnic in a finished state are not subject to regulation, explosive materials used to manufacture or assemble such fireworks or articles are subject to regulation. Thus, fireworks process buildings where consumer fireworks or articles pyrotechnic are being processed shall meet these requirements.

(4) A maximum of 500 pounds of in-process pyrotechnic compositions, either loose or in partially-assembled fireworks, is permitted in any fireworks process building. Finished display fireworks may not be stored in a fireworks process building.

(5) A maximum of 10 pounds of flash powder, either in loose form or in assembled units, is permitted in any fireworks process building. Quantities in excess of 10 pounds must be kept in an approved magazine.

Sec. 55.223 Table of distances between fireworks process buildings and other specified areas.

Distance from Passenger Railways, Public Highways, Fireworks Plant Buildings used to Store Consumer Fireworks and Articles Pyrotechnic, Magazines and Fireworks Shipping Buildings, and Inhabited Buildings. (3), (4), (5)

Net weight of fireworks (1) (pounds)	Display fireworks (1) (feet)	Consumer firework (2) (feet)
0-100	200	25
101-200	200	50
201-300	200	50
301-400	200	50
401-500	200	50
Above 500	Not permitted	Not permitted

(1) Net weight is the weight of all pyrotechnic compositions, and explosive materials and fuse only.

(2) While consumer fireworks or articles pyrotechnic in a finished state are not subject to regulation, explosive materials used to manufacture or assemble such fireworks or articles are subject to regulation. Thus, fireworks process buildings where consumer fireworks or articles pyrotechnic are being processed shall meet these requirements.

(3) This table does not apply to the separation distances between fireworks process buildings (see Sec. 55.222) and between magazines (see Secs. 55.218 and 55.224).

(4) The distances in this table apply with or without artificial or natural barricades or screen barricades. However, the use of barricades is highly recommended.

(5) No work of any kind, except to place or move items other than explosive materials from storage, shall be conducted in any building designated as a warehouse. A fireworks plant warehouse is not subject to Sec. 55.222 or this section, tables of distances.

Sec. 55.224 Table of distances for the storage of display fireworks (except bulk salutes).

Net weight of firework (1) (pounds)	Distance between magazine and inhabited building passenger railway, or public highway (3) (4) (feet)	Distance between magazines (2) (3) (feet)
0-1000	150	100
1001-5000	230	150
5001-10000	300	200
Above 10000	Use table Sec 55.218	

(1) Net weight is the weight of all pyrotechnic compositions, and explosive materials and fuse only.

(2) For the purposes of applying this table, the term "magazine" also includes fireworks shipping buildings for display fireworks.

(3) For fireworks storage magazines in use prior to (30 days from the date of publication of the final rule in the Federal Register), the distances in this table may be halved if properly barricaded between the magazine and potential receptor sites.

(4) This table does not apply to the storage of bulk salutes. Use table at Sec. 55.218.

Title 13, California Code of Regulations,
Selected Sections

HAZARADOUS MATERIALS TRANSPORTATION

**CALIFORNIA
VEHICLE CODE**

**Safety Regulations
Div. 14.8**

§34500. Vehicles to which applicable

The department shall regulate the safe operation of the following vehicles:

- (a) Motortrucks of three or more axles that are more than 10,000 pounds gross vehicle weight rating.
- (b) Truck tractors.
- (c) Buses, schoolbuses, school pupil activity buses, youth buses, and general public paratransit vehicles.
- (d) Trailers and semitrailers designed or used for the transportation of more than 10 persons, and the towing motor vehicles.
- (e) Trailers and semitrailers, pole or pipe dollies, auxiliary dollies, and logging dollies used in combination with vehicles listed in subdivisions (a), (b), (c), or (d). This subdivision does not include camp trailers, trailer coaches, and utility trailers.
- (f) Any combination of a motortruck and any vehicle or vehicles set forth in subdivision (e) that exceeds 40 feet in length when coupled together.
- (g) Any truck, or any combination of a truck and any other vehicle, transporting hazardous materials.
- (h) Manufactured homes which, when moved upon the highway, are required to be moved under a permit as specified in Section 35780 or 35790.
- (i) A park trailer, as described in subdivision (b) of Section 18010 of the Health and Safety Code, which, when moved upon a highway, is required to be moved under a permit pursuant to Section 35780.

- (j) Any other motortruck not specified in subdivisions (a) to (h), inclusive, or subdivision (k), that is regulated by the Public Utilities Commission or the Interstate Commerce Commission, but only for matters relating to hours of service and logbooks of drivers.
- (k) Any commercial motor vehicle with a gross vehicle weight rating of 26,001 or more pounds or any commercial motor vehicle of any gross vehicle weight rating towing any vehicle described in subdivision (e) with a gross vehicle weight rating of more than 10,000 pounds, except combinations including camp trailers, trailer coaches, or utility trailers. For purposes of the subdivision, the term "commercial motor vehicle" has the meaning defined in subdivision (b) of Section 15210.

**TITLE 13
CALIFORNIA CODE OF REGULATIONS
SELECTED SECTIONS**

§1150. Applicability.

This article shall apply to the transportation of explosives subject to Division 14 (commencing with Section 31600) of the Vehicle Code.

§1150.1. Designation of Routes and Stopping Places.

(a) The highways, safe stopping places, and inspection stops to be used for transportation of commodities listed in Section 1150 are set forth in Sections 1151.1 through 1153.12 (Maps 1 through 17A). Safe parking places are listed in Section 1154.

(b) Definitions.

(1) Safe Stopping Place. "Safe stopping place" means any place where a driver may stop for food, fuel, or other reason, provided the vehicle is attended at all times.

(2) Attended Vehicle. A vehicle is "attended" when the driver or person in charge of it is awake and occupies any part of it except the sleeper berth; or is within 100 ft. of the vehicle and has an unobstructed view of it.

(3) Safe Parking Place. "Safe parking place" means any off-highway location or terminal where the driver may park and leave a vehicle unattended.

(4) Inspection Stop. "Inspection stop" means any location specially designated as such in this article or any safe parking place or safe stopping place where vehicle inspections required by Section 31607 of the Vehicle Code may be performed.

(5) Required Inspection Stop. "Required inspection stop" means any place designated as such or any other place where vehicle inspection is mandatory.

§1150.2. Routes Traveled and Stopping.

(a) Routes. No person shall drive or permit the driving of any vehicle transporting commodities listed in Section 1150 upon any highway not designated by this article. For pickup and delivery not over designated routes, the route selected must be the shortest-distance route from the pickup location to the nearest designated route entry location, and the shortest-distance route to the delivery location from the nearest designated route exit location.

(b) Access to Inspection Stops and Safe Stopping Places. If highway access is not provided, a highway other than one designated herein may be used to permit a vehicle or vehicle combination to proceed to and from an inspection stop or safe stopping place, provided the most direct route is used avoiding, to the extent practicable, places where crowds are assembled, streetcar tracks, tunnels, viaducts, and dangerous crossings.

(c) Stopping. No person shall stop a vehicle or vehicle combination transporting commodities listed in Section 1150 at any place not designated as a safe stopping place, safe parking place, improved public rest area as described in (d) of this section or inspection stop, except to comply with orders of a peace officer or an official traffic control device or unless the vehicle or vehicle combination is disabled.

(d) Public Rest Areas. An improved public rest area contiguous to a highway is deemed part of the highway for the purpose of this article.

§1150.3. En Route Inspections.

Inspection of tires and brakes required by Section 31607(c) of the Vehicle Code shall be performed at the following locations:

(a) En Route Inspection Stops. Inspection shall be performed at an inspection stop at least every four hours or 150 miles traveled, whichever occurs first, or as close thereto as is practicable, depending upon the proximity of such inspection stops.

(b) Top-of-Grade Inspection Stops. Regardless of elapsed time or miles traveled, vehicles shall be inspected at the top of and prior to descending any grade upon which the Department of Transportation has declared a speed limit for trucks of less than 55 miles per hour as provided by Section 22407 of the Vehicle Code. Such inspection shall be made off the roadway.

(c) Required Inspection Stops. Regardless of elapsed time or miles traveled, vehicles shall be inspected at any location designated herein as a required inspection stop.

§1150.4. Detours.

Detours established on highways designated in this article may be used for transportation of commodities listed in Section 1150 pending subsequent revision of this article or designation of emergency routes as provided by Section 31617 of the Vehicle Code.

§1150.5. Services and Products.

Services available at safe stopping places are indicated for purposes of convenience, but no recommendation of any product, service, or location is intended or should be inferred.

§1160. Application.

This article shall apply to the transportation of hazardous materials in vehicles listed in Vehicle Code Section 34500 and in any other vehicle for which the display of placards is required pursuant to Vehicle Code Section 27903 as prescribed in Vehicle Code Section 31309.

§1160.1. Exceptions and Special Applications.

- (a) Application to Shippers. Shippers are subject to all provisions of this article except Sections 1160.4(g), 1162.1, 1166 and 1167, and are subject to Section 1164 only when loading or directing the loading of any vehicle.
- (b) Application to Non-commercial Transportation. Except for subsection (d), the exceptions contained in this section shall only apply to the transportation of hazardous materials by carriers when not directly subject to federal jurisdiction pursuant to 49 CFR Part 171 (i.e., transporting hazardous materials in intrastate, interstate or foreign commerce [transported for a fee or used for commercial purposes]).
- (c) Alternative Exceptions for Non-commercial Carriers. Private carriers transporting hazardous materials for non-commercial purposes (i.e., transporting hazardous materials for personal use or by a federal, state or local government agency) may utilize the exceptions contained in subsections (e) through (m) of this section or the exceptions contained in either 49 CFR 173.6 or 49 CFR 173.8(c), but not both the exceptions in subdivisions (e) through (m) and the referenced 49 CFR exceptions at one time on the same vehicle or combination of vehicles.
- (d) Liquefied Petroleum Gas. Except as provided in Sections 1160.4(g), 1160.5, 1161, 1161.3, 1161.6, 1161.7, 1162, 1163(d), 1166, and 1167, this article shall not apply to the transportation of liquefied petroleum gas in cargo tanks subject to regulations of the Division of Occupational Safety and Health, Department of Industrial Relations contained in Title 8, California Code of Regulations, Chapter 4, Subchapter 1 (Unfired Pressure Vessel Safety Orders), but it shall apply to liquefied petroleum gas transported in cylinders and portable tanks.
- (e) Incidentally Transported Materials. This article shall not apply to the transportation of the following:
- (1) Batteries in vehicle or auxiliary equipment ignition or lighting systems.
 - (2) Flammable compressed gases or flammable and/or combustible liquids used exclusively in vehicle or auxiliary equipment fuel, heating, refrigeration, or cooking systems.

(3) Batteries, compressed air in cylinders or tanks not exceeding 200 psi, inflated tires or less than 10 gallons of flammable liquid fuels on tow trucks or similar roadside service or repair vehicles or otherwise transported in private (not for-hire) carriage. Containers used to transport flammable liquids under this subsection shall not exceed 5 gallons capacity each, and shall be constructed and maintained in conformance with a nationally recognized fuel storage and dispensing standard for the fuel being transported (e.g., U.S. Department of Transportation (DOT), United Nations (UN), National Fire Protection Association (NFPA), American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), Underwriter Laboratories (UL), Factory Mutual (FM), or U.S. Department of Defense (military) specifications (U.S. Mil. Spec.).

(4) Highway fusees, and liquid-burning emergency flares and/or red electric lanterns that conform to 49 CFR 393.95(f)(1), being transported expressly for highway warning purposes or as authorized for use pursuant to Vehicle Code Section 25301, unless otherwise prohibited by this Division or the Vehicle Code. This exception does not apply to broken fusees or fusees with missing protective caps.

(5) Fire extinguishers being transported expressly for in-transit emergency fire suppression purposes.

(6) Flammable or combustible distillate fuels transported in a single compartmentalized or noncompartmentalized metal cargo tank of 450 liters (119 gallons) or less total volumetric capacity, or both flammable and combustible distillate fuels transported in a single compartmentalized metal cargo tank of 450 liters (119 gallons) or less total volumetric capacity, by a private carrier and used to service other vehicles or equipment. The tank shall be in compliance with 49 CFR 173.24(b), and the tank, its components, and attached equipment must be secured to the vehicle and protected from damage or leakage of the lading should the vehicle overturn.

(f) Consumer Commodity Exception. The outside packaging and marking exception contained in 49 CFR 173.156 for hazardous materials authorized to be renamed "Consumer commodity" and reclassified ORM-D is extended to transportation by a private carrier from either a distribution center or retail outlet, or subsequent transportation for incidental use.

(g) Shipping Paper Exception. Section 1161, pertaining to shipping papers, shall not apply to a private carrier transporting any one of the following:

(1) Not more than 227 kilograms (500 pounds) aggregate gross weight (including the packaging) of hazardous materials other than:

(A) Any materials listed in 49 CFR 172.504(a), Table I, or

(B) Any materials for which an INFECTIOUS SUBSTANCE, KEEP AWAY FROM FOOD, ORGANIC PEROXIDE, SPONTANEOUSLY COMBUSTIBLE, POISON or RADIOACTIVE label is required, or

(C) Any materials which require a Uniform Hazardous Waste Manifest pursuant to Section 25160 of the Health and Safety Code.

(2) Anhydrous ammonia in a single cargo tank of not more than 4,524 liters (1,200 gallons) capacity transported not more than 30 miles from the filling point or in a trailer-mounted cargo tank in compliance with Section 1163(f)(1) of this article.

(3) Not more than 1 cylinder each of argon, oxygen, carbon dioxide, acetylene, helium, or nitrogen if the gross weight is less than 454 kilograms (1,001 pounds), provided containers and labeling comply with Sections 1161.2 and 1163 of this article.

(h) Storage Tanks. Storage tanks used only for off-highway storage and dispensing of flammable and/or combustible distillate fuels and which contain only residue are excepted from specified provisions of this article as indicated below, when transported in accordance with the following:

(1) Except for subsection (d), Section 1163 shall not apply to portable or stationary above ground storage tanks when in conformance with 49 CFR 173.24(b).

(2) Except for Section 1163(d), this article shall not apply to underground storage tanks when prepared for shipment in accordance with American Petroleum Institute Recommended Practice 1604, Second Edition, December 1987. (This publication may be obtained from the American Petroleum Institute, 1220 L Street, Northwest, Washington D.C. 20005.)

(3) For purposes of this subsection, "residue" means the material remaining after the tank has been unloaded to the maximum extent practicable via the normal discharge opening. In no event shall the tank contain more than 454 liters (120 gallons) of any liquid.

(4) Storage tanks shall not be transported on the same vehicle with any other hazardous materials.

(i) Traffic Paint Applicator. Traffic paint applicator systems containing flammable paint are excepted from the provisions of Section 1163, except subsection (d), when in conformance with 49 CFR 173.24(b).

(j) Mobile Meter Calibration Units. Mobile meter calibration units containing flammable distillate fuel residue or liquefied petroleum gas residue are excepted from the provisions of Section 1163, except subsection (d), when in conformance with 49 CFR 173.24(b) and emptied to the maximum extent practicable via the normal discharge opening.

(k) Self Contained Breathing Apparatus. Compressed air breathing apparatus transported solely for in-transit emergencies or for the safety of persons conducting loading or unloading operations are not subject to this article, except Sections 1161.2, 1161.3 and 1163, when the compressed gas cylinders are mounted or otherwise secured to the vehicle during transit to prevent sliding, falling, tipping, rolling, or damage to the valving should the vehicle overturn.

(l) Breathing Air Recharge Units. Air cylinders or tanks operating under a Division of Occupational Safety and Health, Department of Industrial Relations operating permit and used to fill/recharge breathing air cylinders are not subject to Section 1163, except subsection (d), when in conformance with 49 CFR 173.24(b).

§1160.2. U.S. Department of Transportation Regulations.

(a) Incorporation by Reference. This article incorporates by reference portions of 49 CFR Part 107, Parts 171 through 180, and Part 393 to the extent specified in this article. Unless otherwise specified, all references to 49 CFR in this article are those regulations published on October 1, 1999.

(b) Federal Preeminence. Provisions of the Hazardous Materials Transportation Act recodified into Title 49 U.S. Code (49 U.S.C.) Section 5125, preempt any requirements of any state or political subdivision thereof inconsistent with the act or federal Hazardous Material Regulations relating to hazardous materials transported in commerce. The U.S. Department of Transportation (DOT), Research and Special Programs Administration (RSPA) may except any material from being classed as hazardous, or change any classification or transportation requirement in accordance with authority granted that agency, and such action shall govern the application of this article. In lieu of compliance with the provisions of this article, hazardous materials shipment preparation and transportation in compliance with a later promulgated RSPA requirement, exemption or exception than that adopted by reference in this article is permitted. This includes compliance with a later promulgated requirement prior to its effective date during any period of time where earlier compliance is authorized in the applicable final rulemaking.

(c) Limited Applications. 49 CFR Parts 174 and 179 shall apply only as referenced in 49 CFR Parts 173, 177, and 178.

(d) Motor Carrier Safety Requirements. Provisions of 49 CFR Part 393 applies as incorporated in cargo tank specifications referenced in 49 CFR Part 178, but 49 CFR Parts 390 through 397 shall not otherwise apply to transportation subject to this article.

(e) Referenced Regulations. Copies of 49 CFR, can be obtained from:

SUPERINTENDENT OF DOCUMENTS
U.S. GOVERNMENT PRINTING OFFICE
PO BOX 371954
PITTSBURG, PA 15250-7954
(202) 512-1800
Internet purchases: http://www.access.gpo.gov/su_docs/sale.html

Copies of 49 CFR Part 107 and Parts 171 through 180 may also be obtained from:

BUREAU OF EXPLOSIVES PUBLICATIONS
PO BOX 866
ANNAPOLIS, MD 21404-0688
(412) 741-1096

Copies of 49 CFR Part 107, Parts 171 through 180, and Parts 390 through 397 may also be obtained from:

AMERICAN TRUCKING ASSOCIATIONS, INC.
SAFETY DEPARTMENT
2200 MILL ROAD
ALEXANDRIA, VA 22314-4677
(800) 282-5463 OR (703) 838-1847

Internet Access. Title 49 CFR may also be accessed through the internet at the National Archives and Records Administration's web site at "<http://www.access.gpo.gov/nara/cfr/>" or through the U.S. Department of Transportation, Office of Hazardous Materials Safety's web site at "<http://hazmat.dot.gov/>".

§1160.3. Definitions.

- (a) The meanings of terms contained in this article and not defined in this article are the same as those contained in 49 CFR 171.8.
- (b) "Carrier" means any person who transports hazardous materials subject to this article.
- (c) "Department" means Department of the California Highway Patrol.

(d) "Hazardous material" means a substance or material, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. The term includes hazardous substances, hazardous wastes, marine pollutants, and elevated temperature materials as defined in 49 CFR 171.8, materials designated as hazardous under the provisions of 49 CFR Sections 172.101 and 172.102, and materials that meet the defining criteria for hazard classes and divisions in 49 CFR Part 173.

(e) "Private carrier" means any carrier who transports cargo for use in his/her occupation or for other purpose without reward or compensation.

(f) "Shipper" means any person who prepares or offers hazardous materials for transportation. A shipper who also transports its own material is both a shipper and a carrier.

§1160.4. General Provisions.

(a) Applicability. Shippers shall not offer and carriers shall not transport any shipment of a hazardous material not prepared for transportation in accordance with this Article.

(b) References to Statutes and Regulations. Any reference to provisions of these regulations or to statutes shall apply to all amendments and additions made to such regulatory or statutory provisions.

(c) Alternate Method of Compliance. Upon a finding that an alternate method of compliance provides protection to the public equal to or exceeding that afforded by compliance with provisions of this article, the department may authorize use of such alternate method subject to the following:

(1) Any alternate method of compliance shall be permitted only after application has been made to and written authorization obtained from the department.

(2) Written authorization shall be carried in each transporting vehicle or combination.

(3) No authorization for an alternate method of compliance shall be accorded any highway carrier subject to federal jurisdiction, nor shall such authorization apply to the preparation of hazardous materials for interstate transportation.

(4) No authorization for an alternate method of compliance shall be granted when a special permit or exemption has been issued by the U.S. Department of Transportation, Associate Administrator for Hazardous Materials Safety authorizing the requested alternate method.

(d) Special Permits and Exemptions. Compliance with requirements of special permits and exemptions issued by the U.S. Department of Transportation, Associate Administrator for Hazardous Materials Safety in accordance with 49 CFR Part 107, shall be deemed in compliance with equivalent provisions of this article.

(e) Inspection by Department. Carriers and shippers shall afford duly authorized employees of the department reasonable opportunity to enter terminals and other locations to determine compliance with the provisions of this article.

(f) Unsafe Transportation Prohibited. Authorized employees of the department shall declare and mark any vehicle out-of-service when the condition, securement, preparation of lading, filling, closures, or protective devices on cylinders and tanks would be hazardous to life and property during transportation.

(1) No carrier shall require or permit any person to operate nor shall any person operate any vehicle marked out-of-service until all necessary corrections have been completed.

(2) No person shall remove any out-of-service notice from any vehicle prior to the completion of all corrections required by the notice.

(g) Hazardous Materials Transportation License.

(1) Fees. The fee for a new license is one hundred dollars (\$100) and the fee for a renewal license is seventy-five dollars (\$75).

(2) Original License. The original valid license shall be kept at the licensee's place of business as indicated on the license and presented to any duly authorized employee of the Department upon request.

(3) Copy in each vehicle. A legible copy shall be carried in any vehicle or combination of vehicles transporting hazardous materials and shall be presented to any traffic officer upon request.

(4) Temporary License. Carriers who have paid the license fee, may use either of the following as a temporary license for not more than 60 days when carried in the vehicle:

(A) A copy of the carrier's completed application for license to transport hazardous materials and a copy of the check or money order indicating payment of fee.

(B) A telegraphic money order receipt, or copy thereof, made payable to the California Highway Patrol, indicating payment of fee for license to transport hazardous materials.

(5) Exceptions. Federal, State, county, city, and city and county agencies, and other political subdivisions of the State including, but not limited to, school, irrigation, and fire protection districts are exempt from the licensing requirements of Vehicle Code Section 32000.5.

Internet Access. The California Highway Patrol form CHP 361M (Rev. 01-00), Application for Hazardous Materials Transportation License, instructions for completing the application and related documents are available on the Internet at <http://www.chp.ca.gov/html/forms.html>.

§1160.5. Hazard Classification and Shipping Names.

Hazardous materials shall be classified and described (proper shipping name) in accordance with 49 CFR Parts 172 and 173.

§1161. Shipping Papers.

(a) Applicability. Shippers and carriers shall comply with the shipping paper requirements contained in 49 CFR Part 172, Subpart C and 49 CFR 177.817.

(b) Retention - Shippers and carriers subject to federal jurisdiction. Shippers and carriers of hazardous materials transported in commerce shall comply with the one year shipping paper retention requirements contained in 49 U.S.C. Section 5110 and shall make them available for inspection by any duly authorized employee of the department.

(c) Retention - Shippers and carriers not subject to federal jurisdiction. Shippers and carriers not subject to federal jurisdiction shall retain copies of shipping papers for at least six months and shall make them available for inspection by any duly authorized employee of the department.

§1161.1. Shipping Certification.

(a) Shipper Certificate Required. Shippers shall not offer and initial carriers (other than private carriers) shall not accept for transportation hazardous materials in any form other than bulk shipments in cargo tanks furnished by the carrier, unless the shipper provides a signed certificate prepared in conformance with 49 CFR 172.204.

(b) Retention. Certificates need not be carried with the material enroute, however, copies of shipper certificates shall be retained for at least six months and shall be subject to inspection by any authorized employee of the department.

§1161.2. Hazard Labels.

(a) Applicability. Shippers and carriers shall comply with the labeling requirements contained in 49 CFR Part 172, Subpart E (commencing with Section 172.400).

(b) As specified in 49 CFR 172.401(b), no labels shall be used when they may be confused by reason of shape, size, or color with the hazard labels prescribed by this section unless authorized by 49 CFR 172.401(c).

(c) As specified in 49 CFR 172.401(a), hazard labels prescribed by this section shall not be affixed to packagings which do not contain hazardous materials or when the label does not represent the hazard of the hazardous material in the package, unless authorized by 49 CFR 172.401(c).

(d) All labels and decals on packages shall be replaced before they become illegible.

§1161.3. Marking.

- (a) Applicability. Shippers and carriers shall comply with the marking requirements contained in 49 CFR Part 172, Subpart D (commencing with Section 172.300), and 49 CFR 177.823.
- (b) Hazardous materials proper shipping names and identification numbers shall not be marked on packagings when prohibited by 49 CFR 172.303.

§1162. Placards.

- (a) Applicability. Shippers and carriers shall comply with the placarding requirements contained in 49 CFR Part 172, Subpart F (commencing with Section 172.500) and 49 CFR 177.823.
- (b) Exclusions. This section does not apply to the transportation of small quantities of explosives as provided by Vehicle Code Section 27903.
- (c) Placards shall not be affixed to a packaging, freight container, motor vehicle, etc. when prohibited by 49 CFR 172.502(a).
- (d) Placards may be affixed even when not required by this section when displayed in accordance with 49 CFR 172.502(c).

§1162.1. Vehicle Safety Equipment.

(a) Fire Extinguishers.

- (1) Every three-axle motortruck or combination of vehicles shall be equipped with one fire extinguisher with at least a 4B:C rating, except as provided in (2) or (3).
- (2) Every motor vehicle shall be equipped with one fire extinguisher rated at least 10B:C if the motor vehicle, or any vehicle in a combination of which it is a part, transports cargo requiring placards (Section 1162). Two fire extinguishers with a combined rating of 10B:C may be used, provided the rating of neither unit is less than 4B:C.
- (3) Every tank vehicle or combination of tank vehicles used to transport flammable or combustible liquids shall be equipped with at least one fire extinguisher having a rating of not less than 20B:C. A fire extinguisher rated 12B:C and in service prior to July 1, 1970, may continue in use if it is in good working order. Fire extinguishers required by this subsection shall be serviced annually in accordance with Title 19, California Code of Regulations Chapter 1, Subchapter 3, commencing with Section 550.
- (4) Each fire extinguisher shall have been rated and labeled by one of the following test labs approved by the State Fire Marshal to test and label portable fire extinguishers for sale in California.

(A) Underwriter's Laboratories, Northbrook, Illinois. All sizes and classifications.

(B) Factory Mutual Research Corporation, Norwood, Massachusetts. Sizes 10B:C, 1A 10B:C, 2A 40B:C, 3A 40B:C, and 4A 80B:C fire extinguishers filled with Halon 1211 or Halon 1301.

(5) Fire extinguishers using any carbon tetrachloride, chlorobromomethane, or methyl bromide as extinguishing agents shall not be carried for use in or about any vehicle.

(6) Each fire extinguisher shall be securely mounted on a motor vehicle or trailer in a conspicuous place or in a clearly marked compartment and readily accessible.

(7) Fire extinguishers shall be maintained in efficient operating condition and shall be equipped with means for determining if they are fully charged.

(b) Emergency Warning Devices.

(1) Every vehicle or combination of vehicles transporting Division 1.1, 1.2 or 1.3 explosives shall carry 3 red emergency reflectors.

(2) Liquid burning flares, fusees, oil lanterns, or any signal produced by a flame shall not be carried on any vehicle or vehicle combination transporting Division 1.1, 1.2 or 1.3 (explosives) hazardous materials; or any cargo tank vehicle or in any other vehicle operated in combination with a cargo tank vehicle and used for the transportation of Division 2.1 (flammable gas), Class 3 (flammable liquid) or combustible liquid materials whether loaded or empty.

§1163. Shipment Preparation.

Shipment preparation of hazardous materials shall be governed by the following:

(a) Shipment Preparation and Transportation. Shipments shall be prepared for transportation and transported in accordance with provisions of 49 CFR Part 173.

(b) Authorized Packages-General. Only packagings authorized for shipment of specific commodities by 49 CFR Parts 172 and 173, shall be used, except when otherwise authorized by Sections 1160.1, 1160.4(c) or (d), or 1163(c) or (f) of this article.

(c) Previously Authorized State Fire Marshal Cargo Tanks. Cargo tanks that were authorized by Title 19, California Code of Regulations, (19 CCR), Section 1609.1 on April 1, 1984, which were manufactured and placed into service prior to April 1, 1984, may continue to be used by intrastate carriers, who are not directly subject to federal jurisdiction prior to the October 1, 1998, effective date of RSPA Docket HM-200, to transport flammable liquids under the conditions listed below. Cargo tanks having a capacity of less than 13,250 liters (3,500 gallons) used for the transportation of flammable liquid petroleum products may continue to be used under the provisions of 49 CFR 173.8(b). Cargo tanks transporting flammable liquids other than petroleum products, or having a capacity of 13,250 liters or more, may continue to be used under the following requirements pursuant to 49 CFR 173.8(a) until July 1, 2000.

(1) The flammable liquid has no secondary hazard(s) for which transportation in a MC-306 cargo tank is not authorized.

(2) The cargo tanks are maintained, retested, inspected and marked in accordance with 49 CFR 173.24(b), (e), (f), (g) and (h); 173.24b(a)(1) and (2), (c) and (d)(1); and 49 CFR Part 180 applicable to a MC-306 DOT specification cargo tank.

(d) Leaking packages. Package closures shall be adequate to prevent leakage of contents, and leaking packages shall not be transported.

(e) Qualification and Maintenance of Packagings. Except as provided in subsections (c) and (f), the maintenance, retesting, inspection and qualification of packages shall be in accordance with 49 CFR Part 173, Subpart B and 49 CFR Part 180. Copies of certificates, reports, and records of retesting shall be subject to inspection by any authorized employee of the department.

(f) Anhydrous Ammonia--Additional Packagings. Truck-mounted cargo tanks manufactured before 1970, or manufactured before 1972 and having a capacity of 7,571 liters (2,000 gallons) or less, may be continued in service by private carriers to transport anhydrous ammonia between a filling point and a ranch, or between two locations on one ranch, or between ranches, and need not meet specifications in 49 CFR Part 178, provided:

(1) The tank meets design, construction, repair and operational requirements for anhydrous ammonia transportation tanks in the Unfired Vessels Safety Orders, Chapter 4, Title 8, California Code of Regulations; and

(2) The tank is operated by a carrier not subject to federal jurisdiction.

§1163.1. Prohibited Transportation.

Shippers shall not offer and carriers shall not transport any of the following:

(a) Materials designated as "Forbidden" by 49 CFR 172.101.

(b) Any package containing any materials or combinations of materials that is forbidden to be tendered for transportation by the provisions of 49 CFR 173.21.

(c) Hazardous materials prepared or offered for shipment in a manner specifically prohibited or restricted by 49 CFR Part 173 or 177.

§1164. Vehicle Loading.

(a) Loading Requirements. Load securement, loading, unloading and vehicle utilization shall comply with 49 CFR Part 177, Subparts B and C.

(b) Packages. Packages shall be secured during transit by use of bracing, chocks, or tiedowns to prevent their sliding, falling, tipping, or rolling with normal vehicle acceleration, deceleration, or change in direction. Ends, sidewalls, or doors of van bodies, or racks on flatbed vehicles shall not be relied upon for the securement of portable tanks.

§1166. Reporting of Incidents Involving Hazardous Materials or Hazardous Wastes.

(a) Carriers directly subject to federal jurisdiction pursuant to 49 CFR Part 171 shall comply with the detailed written incident reporting requirements contained in 49 CFR 171.16.

(b) Carriers not directly subject to federal jurisdiction shall report incidents involving hazardous materials or hazardous wastes during transportation, loading or unloading, or temporary storage on carrier premises as follows:

(1) Reports Required. A written report is required of incidents that result in:

(A) Any spill or discharge of hazardous materials or hazardous wastes from any package container, or tanker

(B) Fatality, injury, or hospitalization of any person due to fire, explosion of, or exposure to any hazardous material or hazardous wastes.

(C) Continuing danger to life, health or natural resources at the scene of the incident.

(D) Estimated property damage exceeding \$50,000.

(2) Report Content and Routing. The written report shall, within 30 days of the date of incident discovery, be submitted to the Department of the California Highway Patrol, Commercial Vehicle Section, Post Office Box 942898, Sacramento, CA 94298-0001. The report shall include time and date of occurrence, injuries, property damage, continuing danger to life at the scene of the incident, identification of the commodity and its classification, and other pertinent details. The report may be prepared utilizing DOT Form F5800.1 (Rev. 6/89), Hazardous Materials Incident Report.

(3) Report Retention. A copy of each hazardous materials or hazardous waste spill report shall be retained by the carrier for at least six months, and shall be subject to inspection by duly authorized employees of the department.

(4) Exceptions. The requirements of subsection (b) do not apply to incidents involving the spill or discharge of materials:

(A) Transported under the following proper shipping names:

(i) Consumer commodity

(ii) Battery, electric storage, wet, filled with acid or alkali

(iii) Paint and paint related material when shipped in packagings of five gallons or less.

(B) Prepared and transported as a limited quantity shipment in accordance with this article.

(5) The exceptions to incident reporting provided in paragraph (4) of this subsection do not apply to:

(A) Materials in Packing Group I other than consumer commodities.

(B) Incidents involving the transportation of hazardous waste, or:

(C) Incidents where any of the following occur as a direct result of hazardous materials release or threatened release:

(i) A person is killed; or

(ii) A person receives injuries requiring his or her hospitalization; or

(iii) Estimated carrier or other property damage exceeds \$50,000; or

(iv) An evacuation of the general public occurs lasting one or more hours; or

(v) One or more major transportation arteries or facilities are closed or shut down for one hour or more.

(c) The DOT Hazardous Materials Incident Report form F5800.1 (Rev. 6/89), a guide for completing the report and text of the reporting requirements are available at the following internet sites respectively: <http://hazmat.dot.gov/5800.pdf>, <http://hazmat.dot.gov/5800guid.pdf>, and <http://hazmat.dot.gov/spills.htm#171.16>. Alternatively, the form F5800.1 and the guide document for assisting in the completion of DOT Form F5800.1 may be obtained from the Office of Hazardous Materials Transportation, DHM-51, U.S. Department of Transportation, Washington, DC 20590-0001.

§1167. Delivery of Shipments; Action in Event of Accidents.

The delivery of hazardous materials shipments and required driver action in the event of accidents shall be governed by provisions of 49 CFR Part 177, Subpart D (commencing with Section 177.854). Notwithstanding the provisions of Section 1163(d), a leaking packaging which develops or is discovered subsequent to the commencement of transportation may be transported in accordance with 49 CFR Part 177, Subpart D.

NFPA, Code 1122, Referenced Sections

MODEL ROCKETRY

EXCERPTS FROM NFPA 1122

CHAPTER 3 Definitions

3.1 General.

The definitions contained in this chapter shall apply to the terms used in this code. Where terms are not included, common usage of the terms shall apply.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

3.2.3* Code. A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

3.2.4 Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.5* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.6 Shall. Indicates a mandatory requirement.

3.2.7 Should. Indicates a recommendation or that which is advised but not required.

3.3 General Definitions.

3.3.1 Certified Motor. A commercially manufactured rocket motor that has been certified by a recognized testing organization acceptable to the authority having jurisdiction to meet the certification requirements set forth in NFPA 1125, Code for the Manufacture of Model Rocket and High Power Rocket Motors.

3.3.2 Commercial Manufacturer. Any individual, firm, partnership, joint venture, corporation, or other business entity engaged in research, development, production, preparation, testing, maintenance, or supply of rockets, rocket motors, rocket propellant chemicals, rocket propellant, delay or ejection modules, or rocket components or parts.

3.3.3 High Power Rocket. A rocket that (1) is propelled by one or more high power rocket motors; (2) is propelled by a combination of model rocket motors having an installed total impulse of more than 320 N-sec (71.9 lb-sec); (3) is propelled by a combination of model rocket motors having more than a total of 125 g (4.4 oz) of propellant weight; or (4) weighs more than 1500 g (53 oz) with motor(s) installed.

3.3.4 High Power Rocket Motor. A rocket motor that has more than 160 N-sec (36 lb-sec) but no more than 40,960 N-sec (9208 lbs-sec) of total impulse or an average thrust greater than 80 N (18 lbf) or more than 62.5 g (2.2 oz) of propellant, and that otherwise meets the other requirements set forth in NFPA 1125, Code for the Manufacture of Model Rocket and High Power Rocket Motors.

3.3.5 Installed Total Impulse. The combined total impulse of all rocket motors installed in a rocket and intended to be ignited during the launch and flight of the rocket.

3.3.6* Model Rocket. A rocket that (1) weighs no more than 1500 g (53 oz) with motors installed; and (2) is propelled by one or more model rocket motors having an installed total impulse of no more than 320 N-sec (71.9 lb-sec); and (3) contains no more than a total of 125 g (4.4 oz) of propellant weight.

3.3.7 Model Rocket Engine. See 3.3.8, Model Rocket Motor.

3.3.8* Model Rocket Motor. A rocket motor that has a total impulse of no greater than 160 N-sec (36 lb-sec), an average thrust of no greater than 80 N (18 lbf), and a propellant weight of no greater than 62.5 g (2.2 oz), and that otherwise meets the other requirements set forth in NFPA 1125, Code for the Manufacture of Model Rocket and High Power Rocket Motors.

3.3.9 Module. A pyrotechnic component of a reloadable model rocket motor in which the chemical composition is loaded into a finished assembly by the manufacturer.

3.3.10* Motor Reloading Kit. A product manufactured by a commercial manufacturer that contains the components and parts used to reload and reuse a reloadable rocket motor casing.

3.3.11 Propellant. The material(s) utilized in a rocket motor that produces thrust by the discharge of a working fluid generated by combustion, decomposition, change of state, or other operation of such material contained within the rocket motor.

3.3.12 Rocket. A device that ascends into the air without the use of aerodynamic lifting forces acting against gravity and that is propelled by one or more rocket motor(s).

3.3.13 Rocket Engine. See 3.3.14, Rocket Motor.

3.3.14* Rocket Motor. A device containing propellant that provides the force or thrust to cause a rocket to move.

3.3.14.1 Reloadable Rocket Motor. A rocket motor that has been manufactured so that the user can load, reload, and reuse the pressure-resisting body or casing using the parts and components of a motor reloading kit.

3.3.14.2 Solid Propellant Rocket Motor. A rocket motor that contains a fuel and an oxidizer in solid form and whose force or thrust is produced by the combustion of the fuel and oxidizer.

3.3.15 Structural Parts. The load-bearing parts of a model rocket, specifically, the nose cone, body tube, and fins.

CHAPTER 4 Requirements for Model Rocket Construction, Operation, and Motor Storage

4.1* Model Rocket Operations.

A model rocket shall comply with the requirements of construction and operation as set forth in 14 CFR 101.1 through 101.25, "Federal Aviation Administration Regulations."

4.2 Model Rocket Materials.

4.2.1 A model rocket's structural parts, including the body, nose cone, and fins, shall be made of paper, wood, or plastic and shall contain no metal parts.

4.2.2 A model rocket motor casing that is metallic, reloadable, and meets the specifications in this code shall be permitted.

4.2.3 A model rocket motor shall be assembled with all pyrotechnic ingredients preloaded into a cylindrical paper or similarly constructed nonmetallic tube that does not fragment into sharp, hard pieces.

4.3* Model Rocket Recovery.

4.3.1 A model rocket shall have a means for returning it to the ground (for example, a parachute) so it can be flown again.

4.3.2 All recovery wadding used in a model rocket shall be flame resistant.

4.4* Model Rocket Weight Limits.

4.4.1 A model rocket shall weigh no more than 453 g (16 oz) at lift-off, including propellant.

4.4.2 A model rocket shall use no more than 113 g (4 oz) of propellant, unless one of the following is met:

- (1)* A model rocket that weighs in excess of 453 g (16 oz) but not more than 1500 g (53 oz), including propellant, shall be permitted if the Federal Aviation Administration notice requirements are met.
- (2) A model rocket that uses more than 113 g (4 oz) but less than or equal to 125 g (4.4 oz) of propellant, shall be permitted if the Federal Aviation Administration notice requirements are met.

4.5 Model Rocket Power Limits.

A model rocket's installed motor(s) shall produce a total impulse of no more than 320 N-sec (72 lb-sec).

4.6 Model Rocket Payloads.

A model rocket shall not carry a payload that is designed to be flammable, explosive, or harmful to persons or property.

4.7 Model Rocket Flight Paths.

A model rocket shall not be launched on a flight path aimed at a target.

4.8 Model Rocket Launch Site.

A model rocket shall be launched outdoors in a cleared area, free of tall trees, power lines, buildings, and dry brush and grass.

4.9 Model Rocket Launch Site Size.

The launch site shall be at least as large as specified in Table 4.9.

Table 4.9 Minimum Launch Site Dimensions

Installed Total Impulse (N-sec)	Equivalent Motor Type	Minimum Site Dimension	
		m	ft
0 – 1.25	¼A and ½A	15	50
1.26 – 2.50	A	30	100
2.51 – 5.00	B	61	200
5.01 – 10.00	C	122	400
10.01 – 20.00	D	152	500
20.01 – 40.00	E	305	1000
40.01 – 80.00	F	305	1000
80.01 – 160.00	2F (or 1G)	305	1000
160.01 – 320.00	4F (or 2G)	457	1500

4.9.1 For a circular area, the minimum launch site dimension shall be the diameter, and for a rectangular area it shall be the shortest side.

4.9.2 A model rocket with an installed total propellant weight exceeding 113 g (4 oz) but less than or equal to 125 g (4.4 oz) shall comply with the additional operating notice requirements as set forth in 14 CFR 101.3 through 101.25, “Federal Aviation Administration Regulations.”

4.9.3 Type G motors with an installed total impulse of more than 80 N-sec (18 lb-sec), but not more than 160 N-sec (36 lb-sec), shall be permitted to be used by individuals 18 years old and older.

4.9.4 As an alternative to the minimum launch site dimensions of Table 4.9, the size of the launch site shall meet one of the following criteria:

- (1) It shall be not less than one-half the maximum altitude as stated by the manufacturer for the model rocket and motor(s) combination being flown.
- (2) It shall be of a size approved by the authority having jurisdiction based on flight demonstration or data required to substantiate the anticipated altitude.

4.10 Model Rocket Launchers.

A model rocket shall be launched from a stable launch device that provides rigid guidance until it has reached a speed adequate to ensure a safe flight path.

4.11 Model Rocket Launcher Eye Safety.

4.11.1 To prevent accidental eye injury, the launcher shall be placed so the end of the rod is above eye level, or the end shall be capped when approaching it.

4.11.2 The launch rod shall be capped or disassembled when not in use and shall not be stored in an upright position.

4.12 Model Rocket Launch Safety.

4.12.1 The launcher shall have a blast deflector device to prevent the motor exhaust from hitting the ground directly.

4.12.2 The area around a launch device shall be cleared of brown grass, dry weeds, or other easy-to-burn materials.

4.13 Model Rocket Ignition System.

4.13.1 The system used to launch a model rocket shall be remotely controlled and electrically operated.

4.13.2 The system shall have a launching switch that returns to the "off" position when released.

4.13.3 The system shall be equipped with a removable safety interlock in series with the launch switch.

4.14 Spectator Distances.

4.14.1 All persons shall remain at least 4.6 m (15 ft) from the model rocket during ignition of a model rocket motor with an installed total impulse of 30 N-sec (6.7 lb-sec) or less.

4.14.2 All persons shall remain at least 9 m (30 ft) from the model rocket during ignition of a model rocket motor with an installed total impulse of more than 30 N-sec (6.7 lb-sec).

4.15 Spectator Notification.

4.15.1 All people in the launch area shall be made aware of the pending model rocket launch.

4.15.2 An audible 5-second countdown to launch shall take place.

4.16 Model Rocket Misfires.

If a model rocket misfires, no person shall approach the launcher until 1 minute has elapsed and the safety interlock has been removed or the battery has been disconnected from the ignition system.

4.17 Model Rocket Launch Conditions.

4.17.1 A model rocket shall not be launched in a wind of more than 32 km/h (20 mph).

4.17.2 A model rocket shall not be launched into a cloud.

4.17.3 A model rocket shall not be launched near an aircraft in flight.

4.17.4 A model rocket shall not be launched at an angle greater than 30 degrees from vertical.

4.18* Model Rocket Retrieval Safety.

No attempt shall be made to retrieve a model rocket from a power line or other life-threatening area.

4.19 Model Rocket Motor Requirements.

4.19.1 Only commercially manufactured, certified model rocket motors or motor reloading kits or components as specified in NFPA 1125, Code for the Manufacture of Model Rocket and High Power Rocket Motors, shall be used.

4.19.2 No person shall dismantle, reload, or alter a single-use model rocket motor.

4.19.3 No person shall alter the components of a reloadable model rocket motor or use the contents of a reloadable rocket motor reloading kit for a purpose other than those specified by the manufacturer's instructions for the reloadable rocket motor or reloading kit.

4.20 Residential Storage of Model Rocket Motors and Motor Components.

4.20.1 Not more than 23 kg (50 lb) net weight of solid propellant model rocket motors, motor reloading kits, or motor components shall be stored at a residence.

4.20.2 Not more than 11 kg (25 lb) net weight of solid propellant model rocket motors, motor reloading kits, or motor components stored at a residence shall be permitted to be stored in the living quarters.

4.20.3 Provisions for the storage of more than 23 kg (50 lb) net weight of solid propellant model rocket motors, motor reloading kits, or motor components at a residence shall be subject to the approval of the authority having jurisdiction.

CHAPTER 5 Prohibited Activities

5.1 Prohibited Activities.

The following activities shall be prohibited by this code:

- (1) Using model rocket motors, motor reloading kits, or components for the primary purpose of producing a spectacular display of color, light, sound, or any combination thereof
- (2) Using a model rocket or model rocket motor, motor reloading kit, or component as a weapon
- (3) Using a model rocket, model rocket motor, motor reloading kit, or component contrary to the instructions for its use
- (4) Tampering with any model rocket motor or motor reloading kit or component in any manner or to any degree that is contrary to the purpose for which the model rocket motor, motor reloading kit, or component is designed and intended to be used
- (5) Making, operating, launching, flying, testing, activating, discharging, or other experimentation with model rocket motors, motor reloading kits, or motor components that have not been certified in accordance with NFPA 1125, Code for the Manufacture of Model Rocket and High Power Rocket Motors
- (6) Selling, offering for sale, exposing for sale, purchasing, making, or using fuse, wick, or other ignition devices intended to be activated by a handheld flame for the purpose of starting or igniting a model rocket motor
- (7) Exhibiting statements in writing, in advertising, or on packaging that certification in accordance with NFPA 1125, Code for the Manufacture of Model Rocket and High Power Rocket Motors, has been obtained, when such certification has not been obtained, has been withdrawn, or has been denied
- (8) Reloading any expendable solid propellant model rocket motor with any material after that motor has been operated
- (9) Reloading any reloadable model rocket motor with any material or by any means not specifically provided or recommended by the manufacturer
- (10) Purchasing or using by persons 17 years old or younger of Type G model rocket motors that do not meet the specifications of 16 CFR 1500.85(8) and (9), "Consumer Product Safety Commission Regulations."
- (11) Purchasing or using by persons 17 years old or younger of reloadable model rocket motors or motor reloading kits that do not meet the specifications of 16 CFR 1500.85(8) and (9), "Consumer Product Safety Commission Regulations."

ANNEX A EXPLANATORY MATERIAL

Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

A.3.2.1 Approved. The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A.3.2.2 Authority Having Jurisdiction (AHJ). The phrase “authority having jurisdiction,” or its acronym AHJ, is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

A.3.2.3 Code. The decision to designate a standard as a “code” is based on such factors as the size and scope of the document, its intended use and form of adoption, and whether it contains substantial enforcement and administrative provisions.

A.3.2.5 Listed. The means for identifying listed equipment may vary for each organization concerned with product evaluation; some organizations do not recognize equipment as listed unless it is also labeled. The authority having jurisdiction should utilize the system employed by the listing organization to identify a listed product.

A.3.3.6 Model Rocket. A model rocket has structural parts made of paper, wood, and breakable plastic; it has a means for its return to the ground so it can be flown again; and its primary use is for purposes of education, recreation, and sporting competition.

A.3.3.8 Model Rocket Motor. Where the term model rocket motor is used in this code, it includes both assembled, reloadable model rocket motors and manufactured, expendable model rocket motors.

A.3.3.10 Motor Reloading Kit. The components and parts normally include a propellant module(s), a new model rocket motor nozzle, new insulation components, prepackaged delay and ejection modules, an electrical igniter, and the parts necessary to seal the casing during operation.

A.3.3.14 Rocket Motor. The force or thrust is created by the discharge of gas generated by combustion, decomposition, change of state, or other operation of materials contained, carried, or stored solely within the rocket motor or rocket and not dependent on the outside environment for reaction mass.

A.4.1 The following is an excerpt from 14 CFR 101.1, “Federal Aviation Administration Regulations”:

(a) This part prescribes rules governing the operation in the United States of the following:

(1)

(2)

(3) Any unmanned rocket except:

(i) Aerial fireworks displays; and,

(ii) Model rockets:

(a) Using not more than four ounces of propellant;

(b) Using a slow-burning propellant;

(c) Made of paper, wood, or breakable plastic, containing no substantial metal parts, and weighing not more than 16 ounces, including the propellant; and

(d) Operated in a manner that does not create a hazard to persons, property, or other aircraft.

A.4.3 Models should be launched only during daylight hours.

A.4.4 A model rocket should weigh no more than the motor manufacturer's recommended maximum lift-off weight for the motors used or should use motors recommended by the kit manufacturer.

A.4.4.2(1) See 14 CFR 101.1 through 101.25, “Federal Aviation Administration Regulations.”

A.4.18 It is recommended that, if a model rocket becomes entangled in a power line, the utility company or other appropriate authority be notified.

ANNEX B MODEL ROCKET SAFETY CODE OF THE NATIONAL ASSOCIATION OF ROCKETRY

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

B.1

The Model Rocket Safety Code provides guidance applicable to activities involving model rockets for education, recreation, and sporting competition. The National Association of Rocketry also publishes an annotated version of the Model Rocket Safety Code.

- (1) **Materials.** I will use only lightweight, non-metal parts for the nose, body, and fins of my rocket.
- (2) **Motors.** I will use only certified, commercially-made model rocket motors, and will not tamper with these motors or use them for any purposes except those recommended by the manufacturer.
- (3) **Ignition System.** I will launch my rockets with an electrical launch system and electrical motor igniters. My launch system will have a safety interlock in series with the launch switch, and will use a launch switch that returns to the “off” position when released.
- (4) **Misfires.** If my rocket does not launch when I press the button of my electrical launch system, I will remove the launcher's safety interlock or disconnect its battery, and will wait 60 seconds after the last launch attempt before allowing anyone to approach the rocket.
- (5) **Launch Safety.** I will use a countdown before launch, and will ensure that everyone is paying attention and is a safe distance of at least 4.6 m (15 ft) away when I launch rockets with D motors or smaller, and 9.1 m (30 ft) when I launch larger rockets. If I am uncertain about the safety or stability of an untested rocket, I will check the stability before flight and will fly it only after warning spectators and clearing them away to a safe distance.
- (6) **Launcher.** I will launch my rocket from a launch rod, tower, or rail that is pointed to within 30 degrees of the vertical to ensure that the rocket flies nearly straight up, and I will use a blast deflector to prevent the motor's exhaust from hitting the ground. To prevent accidental eye injury, I will place launchers so that the end of the launch rod is above eye level or will cap the end of the rod when it is not in use.
- (7) **Size.** My model rocket will not weigh more than 1500 grams (53 ounces) at liftoff and will not contain more than 125 grams (4.4 ounces) of propellant or 320 N-sec (71.9 lb-s) of total impulse. If my model rocket weighs more than one point (453 grams) at liftoff or has more than 4 ounces (113 grams) of propellant, I will check and comply with Federal Aviation Administration regulations before flying.

- (8) Flight Safety. I will not launch my rocket at targets, into clouds, or near airplanes, and will not put any flammable or explosive payload in my rocket.
- (9) Launch Site. I will launch my rocket outdoors, in an open area at least as large as shown in Table B.1, and in safe weather conditions with wind speeds no greater than 20 miles per hour. I will ensure that there is no dry grass close to the launch pad and that the launch site does not present risk of grass fires.
- (10) Recovery System. I will use a recovery system such as a streamer or parachute in my rocket so that it returns safely and undamaged and can be flown again, and I will use only flame-resistant or fireproof recovery system wadding in my rocket.
- (11) Recovery Safety. I will not attempt to recover my rocket from power lines, tall trees, and other dangerous places.

Table B.1 Launch Site Dimensions

Installed Total Impulse (N-sec)	Equivalent Motor Types	Minimum Site Dimensions (ft)
0.00 - 1.25	¼A, ½A	50
1.26 - 2.50	A	100
2.51 – 5.00	B	200
5.01 – 10.00	C	400
10.01 – 20.00	D	500
20.01 – 40.00	E	1,000
40.01 – 80.00	F	1,000
80.01 – 160.00	G	1,000
160.01 – 320.00	Two Gs	1,500

ANNEX C GLOSSARY

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

C.1 Aero Model.

A miniature, unmanned flying device that includes the category of model rocket as defined in 3.3.6.

C.2 Skyrocket or Rockets with Sticks.

Fireworks rockets not intended for re-use that meet the definition of skyrocket or missile-type rocket in the hazardous materials regulations of 49 CFR 172 and 173, "Department of Transportation Regulations." Fireworks rockets approved for transportation by DOT normally are classed as Fireworks UN 0335, Explosive 1.3G (formerly Class B Explosive, Special Fireworks) or Fireworks UN 0336, Explosive 1.4G (formerly Class C Explosive, Common Fireworks), depending on the quantity of pyrotechnic composition contained in the rocket. Skyrockets use a wooden stick for flight guidance and stability, while missile-type rockets use fins.

ANNEX E INFORMATIONAL REFERENCES

E.1 Referenced Publications.

The following documents or portions thereof are referenced within this code for informational purposes only and are thus not part of the requirements of this document unless also listed in Chapter 2.

E.1.1 NFPA Publications. (Reserved)

E.1.2 Other Publications.

E.1.2.1 NAR Publications. National Association of Rocketry, P.O. Box 177, 1311 Edgewood Drive, Altoona, WI 54720.

Model Rocket Safety Code of the National Association of Rocketry, 2001.

List of Certified Model Rocket Motors.

E.1.2.2 TRA Publication. Tripoli Rocketry Association, P.O. Box 970010, Orem, UT 84097.

List of Certified Model Rocket Motors.

E.1.2.3 U.S. Government Publications. U.S. Government Printing Office, Washington, DC 20402.

Title 14, Code of Federal Regulations, Parts 101.1–101.25, “Federal Aviation Administration Regulations.”

Title 49, Code of Federal Regulations, Parts 172–173, “Department of Transportation Regulations.”

E.2 Informational References. (Reserved)

E.3 References for Extracts. (Reserved)

Appendix D
Proposed Fireworks Display Ordinance

ARTICLE __

FIREWORKS DISPLAY ORDINANCE

Section __.01 - TITLE

The title of this article shall be known as the “San Diego Unified Port District Fireworks Display Event Ordinance.”

Section __.02 - PURPOSE

The purpose of this article is to establish a defined set of requirements and procedures by which the District and users of the District tidelands may continue to enjoy fireworks displays in and around San Diego Bay and the Pacific Ocean near Imperial Beach. Further, it is the intent of this article to protect the health, safety and welfare of persons, property and the environment within the District’s jurisdiction and to comply with federal, state and local laws and regulations governing the handling, possession, storage, loading, staging, launching and detonating of fireworks.

Section __.03 - DEFINITIONS

For purposes of this article, certain words and phrases not otherwise defined in District Code section 0.03 shall be defined as follows, unless the context requires a different meaning:

“Alternative fireworks” means fireworks produced with new pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters.

“Applicant” means a person who submits an application to the District for a permit pursuant to this article.

“Application” means the District’s written form to be submitted by a person requesting a permit pursuant to this article.

“Barge” means a water vessel from which fireworks are launched or detonated.

“Best Management Practices” or “BMPs” means schedules of activities, prohibitions of practices, pollution prevention and educational practices, maintenance procedures, tools and other management practices used to prevent or reduce the discharge of pollutants directly to receiving waters to the maximum extent practicable. BMPs may include any type of pollution prevention and pollution control measure that can help to achieve compliance with this article.

“District” means the San Diego Unified Port District.

“District General Counsel” means the General Counsel of the District or her/his designee.

“Executive Director” means the Executive Director (President/CEO) of the District or her/his designee.

“Fireworks” means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment, including aerial shells, low-level comet or multi-shot devices or ground-level displays. The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks, torpedoes, skyrockets, roman candles, rockets, sparklers, party poppers, paper caps, chasers, fountains, smoke sparks, aerial bombs, and fireworks kits.

“Fireworks Display Event” means the handling, possession, storage, loading, staging, launching or detonating of fireworks on the land or waters within the District’s jurisdiction for viewing by the public or any group of persons exceeding twenty-five (25) in number.

“Fireworks Operator” means a pyrotechnic operator licensed by the State of California, who by examination, experience and training has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted, and who is responsible for supplying, staging, launching or detonating the fireworks used in a fireworks display event.

“Fireworks Organizer” means a person who proposes to conduct a fireworks display event and who is responsible for obtaining the funding and approvals for a fireworks display event and for contracting with a fireworks operator to produce a fireworks display event.

“Fourth of July Fireworks Display Event” means a fireworks display event that occurs annually on the Fourth of July to express patriotism and civic pride and to celebrate the signing of the Declaration of Independence of the United States of America.

“Non-Fourth of July Fireworks Display Event” means a fireworks display event that occurs on a date other than the Fourth of July.

“Operation Clean Sweep” means the annual cleanup event sponsored by the San Diego Port Tenants Association and District, among others, where volunteers remove trash and debris from San Diego Bay.

“Permit” means the District-issued authorization for an applicant to conduct a fireworks display event pursuant to this article.

“Person” means an individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency or other legal entity, or the agent or employee thereof.

“Salute” means an aerial shell as well as other pyrotechnic items whose primary effects are loud noise generated by detonation and flash of light.

“San Diego Bay Fourth of July Fireworks Display Event” means the annual fireworks display event which occurs on the Fourth of July at up to four (4) locations in northern San Diego Bay and is currently known as the “Big Bay Boom.” The San Diego Bay Fourth of July Fireworks Display Event will be referred to in this article as the Big Bay Boom.

"San Diego Water Board" means the California Regional Water Quality Control Board for the San Diego Region.

"San Diego Water Board General Permit" means California Regional Water Quality Control Board for the San Diego Region Order No. R9-2011-0022/NPDES No. CAG999002, General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States, including any updates and amendments thereto.

“Sponsor” means a person who contributes funds, services, or other forms of assistance to a fireworks organizer in support of a fireworks display event.

Section __.04 - PROHIBITIONS

(a) It shall be unlawful for any Person to handle, possess, store, load, stage, launch or detonate Fireworks on land or water within District jurisdiction without first having obtained a Permit from the Executive Director as provided in this section. By signing said Permit, each Permit recipient acknowledges and agrees to comply with all of the applicable terms and conditions that may be specified in such Permit and this article.

(b) Any Person who receives a discretionary lease, permit, license or other entitlement for use or a contract, grant, subsidy, loan or other form of financial assistance from the District in connection with a Fireworks Display Event shall also obtain a Permit from the Executive Director as provided in this article. By signing said Permit, each Permit recipient acknowledges and agrees to comply with all of the applicable terms and conditions that may be specified in such Permit and this article.

Section __.05 - PERMITS - APPLICATION

Whenever the privilege of doing any of the acts hereinbefore enumerated in this article requires obtaining a Permit from the Executive Director, the following procedure shall be followed:

(a) An application for a Permit shall be filed with the District not less than sixty (60) days before the date on which the Fireworks Display Event is proposed to occur.

(b) The application shall be in writing, in a form approved by the District, and shall include, at minimum, the following information: the Person who proposes to handle, possess, store, load, stage, launch or detonate Fireworks, including if applicable the Fireworks Organizer, Fireworks Operator and Sponsor of the Fireworks Display Event; the date, time and duration of the proposed Fireworks Display Event; the location(s) of the proposed Fireworks Display Event, including the loading, staging and launching sites; the total number of pounds, shell sizes and types of Fireworks to be used; and the proposed event transportation and parking management plan for the Fireworks Display Event.

(c) The application shall include copies of the Applicant's Notice of Intent for coverage under the San Diego Water Board General Permit, the San Diego Water Board's Notice of Enrollment of the proposed Fireworks Display Event under said General Permit, and the Best Management Practices Plan approved by the San Diego Water Board for the proposed Fireworks Display Event.

(d) When the application is deemed complete, the Executive Director shall review the application and determine whether the proposed Fireworks Display Event complies with all of the requirements of section __ (Permit – Conditions of Approval) of this article. If the proposed Fireworks Display Event complies with all of the requirements of section __ (Permit – Conditions of Approval) of this article, the Executive Director shall issue a Permit.

(e) Each Permit issued shall state the date, time and location of the Fireworks Display Event for which it is issued, the name of the Person to whom it is issued and all mandatory conditions upon which the Permit is given.

Section __.06 - PERMITS – PUBLIC NOTICE

(a) Within five (5) business days after the issuance of a Permit pursuant to this article, the Executive Director shall give public notice of the issuance of such Permit by posting a copy of the Permit on the District's website.

Section __.07 - PERMITS - CONDITIONS OF APPROVAL

All permits issued by the Executive Director shall be subject to the following terms and conditions:

(a) Location of Fireworks Display Events.

1. Fourth of July Fireworks Display Events shall occur only at the following locations:

A. Big Bay Boom, at up to four (4) locations in northern San Diego Bay;

B. Fourth of July Imperial Beach Fireworks, at one (1) location along the Imperial Beach Pier;

C. Fireworks Over Glorietta Bay, at one (1) location in Glorietta Bay;

D. Chula Vista Fourth of July, at one (1) location adjacent to the Chula Vista Bayfront; and

E. National City Fourth of July, at one (1) location adjacent to the National City Bayfront.

2. Non-Fourth of July Fireworks Display Events shall occur only at the following locations:

A. National Steel and Shipbuilding Company (NASSCO) shipyard, not to exceed two (2) displays per year along NASSCO Pier 12;

B. U.S.S. Midway Museum, not to exceed twenty-three (23) displays per year on or adjacent to the U.S.S. Midway Museum;

C. San Diego Symphony Summer Pops Concerts, not to exceed twenty (20) displays per year adjacent to Embarcadero Marina Park South;

D. Our Lady of Rosary Church Annual procession, not to exceed one (1) display per year along Harbor Drive and at end of Grape Street Pier; and

E. Chula Vista Bayfront, not to exceed two (2) displays per year adjacent to the Chula Vista Bayfront.

(b) Duration of Fireworks Display Events.

1. Fourth of July Fireworks Display Events shall not exceed twenty (20) minutes in duration.

2. Non-Fourth of July Fireworks Display Events shall not exceed ten (10) minutes in duration.

(c) Size of Fireworks Display Events.

1. Fourth of July Fireworks Display Events:

- A. Big Bay Boom, not to exceed a cumulative 5,342 pounds of fireworks;
- B. Fourth of July Imperial Beach Fireworks, not to exceed 456 pounds of fireworks;
- C. Fireworks Over Glorietta Bay, not to exceed 397 pounds of fireworks;
- D. National City Fourth of July, not to exceed 400 pounds of fireworks; and
- E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks.

2. Non-Fourth of July Fireworks Display Events:

- A. NASSCO shipyard, not to exceed 281 pounds of fireworks per display, or a cumulative total of 439 pounds of fireworks per year;
- B. U.S.S. Midway Museum, not to exceed 235 pounds of fireworks per display, or a cumulative total of 1,759 pounds of fireworks per year;
- C. San Diego Symphony Summer Pops Concerts, not to exceed 95 pounds of fireworks per display, or a cumulative total of 1,498 pounds of fireworks per year;
- D. Our Lady of Rosary Church Annual procession, not to exceed 18 pounds of fireworks; and
- E. Chula Vista Bayfront, not to exceed 114 pounds of fireworks per display, or a cumulative total of 228 pounds of fireworks per year.

(d) Fireworks Chemical Composition and Packaging.

1. Chemical Composition.

- A. The Big Bay Boom Fourth of July Fireworks Display Event shall use Fireworks which contain no more than 0.32% copper (Cu) per pound of explosive firework material, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that the total copper emissions from the proposed Big Bay Boom Fireworks Display Event will not exceed seventeen (17) pounds. Fireworks which do not conform to the foregoing

requirement, but were lawfully purchased prior to the effective date of this article, may be used for a period of six months after the effective date of this article.

B. All Fireworks Display Events shall use Alternative Fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such Alternative Fireworks are not commercially available.

2. Packaging.

A. Prior to commencement of a Fireworks Display Event, the Fireworks Operator shall remove and properly dispose of all packaging, wrapping and labels from all Fireworks to be used in the event.

B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.

(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:

1. Location. Fireworks Display Events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches.

2. Salutes. Fireworks Display Events shall not use concussion type, non-color shells such as "salutes" or "reports" during the initial twenty-five percent (25%) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display).

3. Security. For Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the Fireworks Organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays.

4. Signage. For Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half-mile of nesting colonies or habitat areas for federally or state-listed species, the Fireworks

Organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.

5. Education. Beginning not less than seven (7) days before Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the Fireworks Organizer shall implement a public education program using social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to remind viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).

(f) Best Management Practices. Fireworks Display Events shall implement the following BMPs for Fireworks Display Event preparation, discharge and clean-up:

1. Fireworks Display Events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.

2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the Fireworks Display Event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the Fireworks Display Event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.

3. Wires from the electric match placed in the Fireworks fuse shall be wrapped around nails that are installed on the racks to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the Fireworks Display Event.

4. Once the Fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved

into position. No loose material shall be allowed on the barges during the Fireworks Display Event.

5. Following the Fireworks Display Event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the Fireworks Display Event, the Fireworks Operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the Fireworks, to prevent it from being discharged into the water while the barge is underway.

6. Upon return to the loading facility, the Fireworks Operator shall clean the barge of all Fireworks related material and shall photograph and properly dispose of all Fireworks trash and debris. Unexploded Fireworks and related components shall be collected and disposed of by the Fireworks Operator in accordance with all applicable regulations. Fireworks Operators shall photograph the barge prior to and after cleaning.

7. Following the Fireworks Display Event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the Fireworks Organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent Fireworks using hand held fishnets, pool skimmers, or other similar equipment.

8. The morning after the Fireworks Display Event, the Fireworks Organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove Fireworks trash and debris. The Fireworks Organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.

9. The morning after the Fireworks Display Event, the Fireworks Organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The Fireworks Organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.

10. Within five (5) business days after a Fireworks Display Event, the Fireworks Organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the Fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the Fireworks Display Event, the Fireworks Organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the Fireworks Display Event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up

event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.

11. For all Fourth of July Fireworks Display Events and for Non-Fourth of July Fireworks Display Events which are advertised to the public, the Fireworks Operator shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

(g) Eelgrass Avoidance and Mitigation. For Fireworks Display Events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.

(h) Event Transportation and Parking Management Plans. For all Fourth of July Fireworks Display Events and for Non-Fourth of July Fireworks Display Events which are advertised to the public, the Fireworks Organizer shall prepare and submit an event transportation and parking management plan (ETPMP) to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The ETPMP shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:

1. Transportation management strategies, including but not limited to, a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which shall be implemented for the Fireworks Display Event; and

2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, off-site parking arrangements, designated areas for taxi and rideshare pick up/drop off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations.

(i) Compliance with San Diego Water Board General Permit.

1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.

2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article.

3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.

(j) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.

(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant's failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.

(l) Indemnity: The Applicant shall indemnify and hold harmless the District, its board, officers and employees, from any and all claim of loss, liability or damage arising out of the Fireworks Display Event, including but not limited to the issuance of the District Permit, or in connection with the handling, possession, storage, loading, staging, launching or detonating of Fireworks by the Applicant, its officers, employees, contractors, agents or other representatives, howsoever caused, whether such loss, liability or damage results, either

directly or indirectly, from the acts, omissions or negligence of the Applicant, its officers, employees, contractors, agents or other representatives, in connection with the handling, possession, storage, loading, staging, launching or detonation of Fireworks pursuant to said Permit.

(m) Insurance: The Applicant shall file with the Executive Director, in a form approved by the District General Counsel, a policy of public liability and property damage insurance, in such amounts and form as the Executive Director may specify, indemnifying the District, its boards, officers and employees, as their interest may appear under the terms and conditions of said Permit. The Permit shall not become effective until after such policy of insurance has been received by the District.

(n) Performance Bond: The Executive Director may require the Applicant to post a faithful performance bond, in a form approved by the District General Counsel, or in lieu thereof the equivalent in cash, in an amount sufficient in the opinion of the Executive Director to cover costs associated with the Fireworks Display Event allowed under the permit, including without limitation the costs of providing security for the protection of sensitive species and habitat, and cleaning up and removing debris, rubbish and trash. The permit shall not become effective until after such faithful performance bond, or cash in lieu thereof, has been posted with and received by the District.

Section __.8 – GENERAL PROVISIONS

(a) Preemption. The provisions of this article do not apply where any federal or state law regulates the handling, possession, storage, loading, staging, launching or detonating of Fireworks if the federal or state law preempts local regulation or the federal or state law is more restrictive.

(b) Severability. If any provision of this article or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of this article which can be given effect without the invalid provisions or application, and to this end the provisions of this section are severable.

(c) Cost Recovery. Pursuant to Article 2, Cost Recovery, of the District Code, the Applicant shall pay a fee to the District for the cost of services and administrative acts of the District incurred in processing a permit application pursuant to the article.

Section __.9 - ENFORCEMENT

Any person who violates this article or who fails to comply with the terms and conditions of a permit issued pursuant to this article shall be subject to punishment in accordance with District Code section 0.11, General Penalty, and section 0.13, Permit Violations.

DRAFT

Appendix E

Air Quality and Greenhouse Gas Calculations

- **Emissions Calculation Sheets**
 - **Fireworks Emissions**
 - **Tug and Barge Emissions**
 - **Material Deliveries**
- **Health Risk Assessment**
 - **Health Risk Technical Report**
 - **Risk and Concentrations Sheets**
 - **OBOD model outputs**
- **Carbon Monoxide Hotspot Modeling**

Emissions Calculation Sheets

- **Fireworks Emissions**
- **Tug and Barge Emissions**
- **Material Deliveries**

Fireworks Calculations

Direct and Indirect (biomass) Fraction of Fireworks Based on Explosive Reported by Tian, et al, 2014 pg 9473 , Atm Chemistyr Phsus Vol 14)

	Percent based on CMB	Launch over Water	Big Boom Exp PM10	5342 lbs 2423 kg	Percent based on CMB	Launch over Water	PM2.5	Cu	Cr+6		
PM-10			Big Boom Event PM-10 Release to Air (kg)				Big Boom Event PM-25 Release to Air (kg)	Big Boom Event Cu Release to Air (kg)	Big Boom Event Cr+6 Release to Air (kg)		
Resuspend Dust	36.8	0.0	Projectile	Lift-charge	Resuspend Dust	34.9	0.0	Projectile	Lift-charge	Projectile	Lift-charge
Biomass	14.1	24.1%		50.2 1.88	Biomass	16.6	24.0%		2.6 0.0		0.004 0.00
Direct	44.4	75.9%		158.2 5.92	Direct	52.5	76.0%		8.2 0.0		0.013 0.00
Unknown	4.7			216.2	Unknown	-4			10.7		0.0
total	100			4%	total	100			149.2		0.0

event	day of event (4th/non-4th)	# of events	pounds of fireworks/max daily	pounds of fireworks/annual	barge-based?	location	
<u>Existing shows</u>						encompasses North Embarcadero, South Embarcadero, Shelter Island, and Harbor Island sites	
Big Bay Boom	4th of July	1	5,342	5,342	Yes		
Glorietta Bay	4th of July	1	397	397	Yes	Coronado, only on 4th	
Imperial Beach Oceanfront	4th of July	1	456	456	No	IB Pier, only on 4th	
Summer Pops	non-4th	20	95	1,498	Yes	20 shows through summer and early fall; none on 4th; north embarcadero area	
Our Lady of Peace	non-4th	1	17.25	17.25	No	encompasses the North Embarcadero October show; no info, so assumed same size as non-4th Chula Show (5 minutes); 1 show	
USS Midway Museum	non-4th	23	235	1,759	Yes	detonated either off of a barge in the San Diego Bay or off the end of flight deck of the Midway; assume barge for worst-case emissions; actually, only 7 of 23 shows by barge	
NASSCO	non-4th	2	281.6	439.1	No	launched from the end of Pier 12	
	<i>Existing shows</i>	<i>49</i>		<i>9907</i>			
<i>new</i>	Chula Vista	non-4th	3	456	683	Yes	same size as IB
<i>new</i>	National City	4th of July	1	456	456	Yes	same size as IB

Speciation and Emission Factors

Table 2. Croueau, et al., 2012

Metal content of pyrotechnics (mg kg⁻¹). Where total mass is the explosive weight of fireworks

Device	Metal Content (mg/kg)														Total metal (mg/kg)	Direct Particulate Mass (mg/kg)	Direct Total Particulate Mass	Fraction of PM-10 Mass		
	Al	B	Ba	Bi	Cu	Cr	Fe	Li	Mg	Mn	Ni	Pb	Sb	Sr					Zn	
Dragon Eggs	8.8E+04	<9.50E+02	2.6E+04	1.7E+00	9.1E+04	1.0E+03	5.2E+02	2.0E+00	6.1E+04	3.0E+02	1.2E+01	5.2E+04	7.6E+03	3.3E+02	5.6E+02					
Road Flare	4.8E+02	<1.86E+03	6.7E+03	3.8E+01	3.5E+02	3.6E+01	<1.01E+02	<1.30E+01	5.8E+02	6.0E+00	<1.20E+01	<1.00E+00	<1.13E+02	>2.31E+05	1.5E+01					
Ribbon Fuse	5.7E+03	<7.20E+02	1.3E+04	1.1E+01	1.6E+04	3.9E+00	2.8E+02	<5.00E+00	6.1E+03	2.7E+02	2.0E+00	7.6E+04	4.3E+01	9.5E+01	3.7E+02					
Sparkler	3.0E+02	6.0E+00	4.4E+01	<2.00E+00	1.9E+01	<4.00E+00	<3.30E+01	2.0E+00	1.3E+04	3.6E+01	2.0E+00	<3.00E+00	<3.70E+01	1.6E+04	1.1E+02					
Pinwheel	6 chambers	1.8E+04	<1.55E+02	2.2E+01	2.0E+00	8.7E+03	1.2E+02	9.6E+03	1.4E+00	1.5E+04	3.5E+01	1.3E+02	3.0E+00	3.2E+02	8.7E+03	3.0E+02				
Roman Candle A	Lift charge	3.9E+02	1.4E+03	2.8E+01	4.0E+00	5.7E+01	9.0E+00	5.6E+02	4.0E+00	2.6E+02	3.4E+01	9.0E+00	7.0E+00	8.5E+01	1.1E+01	1.3E+01	2.86E+03	3216	2219	3.61% Lift charge
Roman Candle A	Projectile	<5.32E+03	<5.32E+04	1.1E+03	<1.35E+02	<2.19E+03	3.4E+02	<2.88E+03	1.2E+02	5.6E+02	<3.06E+02	<3.34E+02	<2.77E+02	<3.24E+03	<6.30E+01	6.6E+01				
Roman Candle B	Projectile	1.4E+04	5.0E+03	2.0E+01	1.8E+03	4.1E+04	5.0E+00	7.2E+02	1.0E+00	1.3E+04	1.1E+02	6.0E+00	2.0E+01	4.7E+02	9.0E+00	8.8E+01	7.64E+04	86000	59340	96.39%
Roman Candle C	Projectile	7.7E+04	<3.46E+03	2.1E+04	4.0E-01	2.2E+03	5.6E+01	1.1E+03	8.0E+00	6.2E+04	4.9E+02	3.5E+01	4.0E+02	1.2E+03	4.7E+04	4.2E+03				
Fountain A	6 chambers	5.3E+04	-	1.6E+04	4.3E+02	2.9E+04	3.2E+02	2.0E+03	-	2.9E+04	7.3E+02	-	7.8E+01	<1.60E+01	2.7E+03	2.4E+03				
Fountain B	7 chambers	3.6E+04	-	1.0E+04	2.2E+02	1.7E+04	5.9E+02	2.1E+03	-	2.1E+04	6.7E+02	-	<4.20E+01	<4.20E+01	1.4E+03	3.8E+03				
Fountain C	2 chambers	9.2E+03	4.4E+02	2.7E+03	<3.00E+00	1.0E+04	2.3E+01	4.8E+02	4.0E-01	8.3E+03	2.2E+02	2.5E+00	1.2E+01	1.1E+01	2.4E+03	2.1E+02				
Fountain D	1 chamber	2.2E+04	<1.33E+03	2.5E+04	<3.00E+00	1.6E+02	1.5E+02	1.3E+03	1.3E+00	2.6E+04	5.2E+02	4.0E+00	1.7E+02	2.9E+02	1.3E+02	5.9E+02				
Fountain E	3 chambers	3.6E+03	<7.35E+03	9.8E+01	<1.90E+01	6.0E+03	<5.70E+01	2.9E+02	<4.90E+01	2.1E+04	6.2E+01	<4.60E+01	<3.80E+01	1.3E+04	2.6E+02	3.8E+02				
Fountain F	1 chamber	1.6E+04	<7.43E+02	8.0E+00	2.9E+03	1.7E+04	3.0E+00	2.4E+02	2.0E-01	1.3E+04	2.8E+02	6.0E+00	9.1E+04	2.2E+03	1.0E+01	2.2E+01				
Fountain G	1 chamber	1.3E+04	3.0E+00	1.8E+04	<1.00E+00	3.9E+03	<2.00E+00	7.8E+01	6.0E-01	2.1E+04	4.2E+01	3.0E-01	1.0E-01	2.2E+02	1.0E+04	2.5E+01				
Fountain H	1 chamber	>1.21E+05	<6.93E+02	1.1E+04	<2.00E+00	1.3E+03	2.2E+01	5.4E+02	1.0E-01	2.7E+04	5.2E+02	1.1E+01	6.8E+01	2.5E+01	7.8E+01	1.2E+03				

Fraction of PM-10 as PM-2.5

69% Average Value from Firework Events Measured Immediately Downwind of Activity (Tasi, et al., 2012)

Table 6 Total Airborne PM and Metal Emission Factors (mg emitted / kg combusted device), Table 7 Inorganic Ion Emission Factors (mg emitted / kg combusted device), Table 8 Nitrogen Species Emission Factors, Table 9 Carbonyl Emission Factors, Table 10 PAH Emission Factors (Croteau et al., 2012)

Pollutant	Roman Candle		Lift Charge (Black Powder)		Roman Candle		Lift Charge (Black Powder)		Roman Candle		Same as Candle		Roman Candle		Max Firework		Roman Candle		Max Firework		Roman Candle		Max Firework	
	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant	Projctfile	Pollutant
Cu	4600	0 Cr+6	7.1	0 Pb	10	0 SOx	29500	29500	Nox	1600	1600	Formaldehyd	8.6	82	Acetaldehyd	43	210	Acrolein	8.6	12	Napthale	79	94	
			0.00071%																					

TUG AND BARGE EMISSIONS

Tug and Barge Emission Factor Calculations

Tug size and model year information, taken from 2012 POSD Inventory

Tug					
model year	2004			avg MY from inventory for 400-1100 hp range	
Propulsion	600 kW	804 hp		avg MY from inventory for 400-1100 hp range	
Auxiliary	75 kW	101 hp		avg MY from inventory for 400-1100 hp range	
Barge	no emissions				

Method taken from 2013 Port of Long Beach Inventory
Assumes tugs are fully deteriorated

$$EF = ZH + (DR \times \text{Cumulative Hours})$$

Equation 3.2

$$DR = (DF \times ZH) / \text{cumulative hours at the end of useful life}$$

Equation 3.3

$$E = \text{Power} \times \text{Activity} \times LF \times EF \times FCF$$

Equation 3.1

Where:

ZH = zero hour emission rate for a given horsepower category and model year when the engine is new and there is no component malfunctioning, g/hp-hr or g/kW-hr
DR = deterioration rate (rate of change of emissions as a function of equipment age), g/hp-hr² or g/kW-hr²
Cumulative hours = total number of hours the engine has been in use and calculated as annual operating hours times age of the engine, hours

Where:

DR = deterioration rate, g/hp-hr² or g/kW-hr²
DF = deterioration factor; percent increase in emissions at the end of the useful life, %
ZH = emission rate for a given engine size category and model year when the engine is new and there is no component malfunctioning, g/hp-hr or g/kW-hr
Cumulative hours at the end of useful life = annual operating hours times useful life in years, hours

Where:

E = emissions, grams/year
Power = rated power of the engine, hp or kW
Activity = engine activity, hours/year
LF = load factor (ratio of average power used during normal operations as compared to maximum rated power), dimensionless
EF = emission factor, grams of pollutant per unit of work, g/hp-hr or g/kW-hr
FCF = fuel correction factor to reflect changes in fuel properties that have occurred over time, dimensionless

ZH

Zero Hour Tug Emission Factors (g/kWh)

Year	power range	Engine	NOx	PM10	PM2.5	ROG	CO	SOx	CO2	CH4	N2O
2000-2007	560-1418 kw	Propulsion	9.80	0.48	0.44	1.15	2.64	0.17	652.00	0.018	0.031
2000-2005	38-90 kw	Auxiliary	9.80	0.78	0.72	2.00	4.81	0.17	652.00	0.032	0.031

POLB 2013, pg c-2

FCF

Harborcraft ULSD Correction Factors										
Years	NOx	PM10	PM2.5	ROG	CO	SOx	CO2	CH4	N2O	
1996-2010	0.95	0.80	0.80	0.72	1.00	0.04	1.00	0.720	0.948	

POLB 2013, pg c-2

ZH, ULSD-corrected

ULSD Tug Emission Factors (g/kWh)										
Engine	NOx	PM10	PM2.5	ROG	CO	SOx	CO2	CH4	N2O	
Propulsion	9.29	0.38	0.35	0.83	2.64	0.01	652.00	0.01	0.03	
Auxiliary	9.29	0.62	0.57	1.44	4.81	0.01	652.00	0.023	0.029	

Zero-hour x ULSD Corrections

DR & Cumulative Hours

Engine	Useful Life	Annual Hours	Det Cap Years
Propulsion	21	2274	5.28
Auxiliary	23	2486	4.83

Det Cap taken from ARB CHC Methodology Life, POLB 2014, Table 3.6

DF

hp range	Engine Deterioration Factor			
	NOx	PM	CO	ROG/HC
< 186	0.14	0.44	0.16	0.28
> 186	0.21	0.67	0.25	0.44

POLB Table 3.5

EF, fuel-corrected

Fully Deteriorated Tug Emission Factors (g/kWh)										
Engine	NOx	PM10	PM2.5	ROG	CO	SOx	CO2	CH4	N2O	LF
Propulsion	9.78	0.45	0.41	0.92	2.81	0.01	652	0.013	0.029	0.50
Auxiliary	9.56	0.68	0.63	1.53	4.97	0.01	652	0.023	0.029	0.31

LF from ARB's CHC methods, not POL

Energy

Fuel	Source	MT	LBS	Gallons	BTU	million BTU
Diesel	Tugs	3.21	7071	314	40692557	41
	Delivries	3.18	7010	312	40339423	40
Lbs CO2 per Million	22.50140994	CR 2015				81
Diesel	129,488	BTU/gal				
Million	1000000					

TUG AND BARGE EMISSIONS

Emission calcs

Equation 3.1

$$E = \text{Power} \times \text{Activity} \times \text{LF} \times \text{EF} \times \text{FCF}$$

Where:

E = emissions, grams/year
 Power = rated power of the engine, hp or kW
 Activity = engine activity, hours/year
 LF = load factor (ratio of average power used during normal operations as compared to maximum rated power), dimensionless
 EF = emission factor, grams of pollutant per unit of work, g/hp-hr or g/kW-hr
 FCF = fuel correction factor to reflect changes in fuel properties that have occurred over time, dimensionless

Engine	kw	LF	hrs/each	No.	Lbs per Day/Event										Events	Tons per Year					MT/yr					
					NOx	PM10	PM2.5	ROG	CO	SOx	CO2	CH4	N2O	CO2e		NOx	PM10	PM2.5	ROG	CO	SOx	CO2	CH4	N2O	CO2e	
Big Bay Boom	Propulsion	600	0.50	0.8	8	43	2	2	4	12	0.0	2861	0.06	0.13	2901	1	0.021	0.001	0.001	0.002	0.006	0.000	1.43	0.0000	0.0001	1.45
Big Bay Boom	Auxiliary	75	0.31	4.0	8	16	1	1	3	8	0.0	1072	0.04	0.05	1087	1	0.008	0.001	0.001	0.001	0.004	0.000	0.54	0.0000	0.0000	0.54
Glorietta Bay	Propulsion	600	0.50	0.4	2	5	0	0	0	1	0.0	345	0.01	0.02	350	1	0.003	0.000	0.000	0.000	0.001	0.000	0.17	0.0000	0.0000	0.17
Glorietta Bay	Auxiliary	75	0.31	4.0	2	4	0	0	1	2	0.0	268	0.01	0.01	272	1	0.002	0.000	0.000	0.000	0.001	0.000	0.13	0.0000	0.0000	0.14
Summer Pops	Propulsion	600	0.50	0.6	2	8	0	0	1	2	0.0	534	0.01	0.02	542	20	0.080	0.004	0.003	0.008	0.023	0.000	5.34	0.0001	0.0002	5.42
Summer Pops	Auxiliary	75	0.31	4.0	2	4	0	0	1	2	0.0	268	0.01	0.01	272	20	0.039	0.003	0.003	0.006	0.020	0.000	2.68	0.0001	0.0001	2.72
Chula Vista	Propulsion	600	0.50	1.7	2	22	1	1	2	6	0.0	1436	0.03	0.06	1456	3	0.032	0.001	0.001	0.003	0.009	0.000	2.15	0.0000	0.0001	2.18
Chula Vista	Auxiliary	75	0.31	4.0	2	4	0	0	1	2	0.0	268	0.01	0.01	272	3	0.006	0.000	0.000	0.001	0.003	0.000	0.40	0.0000	0.0000	0.41
National City	Propulsion	600	0.50	1.2	2	16	1	1	1	4	0.0	1034	0.02	0.05	1049	1	0.008	0.000	0.000	0.001	0.002	0.000	0.52	0.0000	0.0000	0.52
National City	Auxiliary	75	0.31	4.0	2	4	0	0	1	2	0.0	268	0.01	0.01	272	1	0.002	0.000	0.000	0.000	0.001	0.000	0.13	0.0000	0.0000	0.14
Our Lady of Peace	Propulsion	600	0.50	0.0	0	0	0	0	0	0	0.0	0	0.00	0.00	0	1	-	-	-	-	-	-	-	-	-	-
Our Lady of Peace	Auxiliary	75	0.31	0.0	0	0	0	0	0	0	0	0	0.00	0.00	0	1	-	-	-	-	-	-	-	-	-	-
USS Midway Museum	Propulsion	600	0.50	0.7	2	9	0	0	1	3	0.0	632	0.01	0.03	641	23	0.109	0.005	0.005	0.010	0.031	0.000	7.27	0.0001	0.0003	7.37
USS Midway Museum	Auxiliary	75	0.31	4.0	2	4	0	0	1	2	0	268	0.01	0.01	272	23	0.045	0.003	0.003	0.007	0.023	0.000	3.08	0.0001	0.0001	3.13
NASSCO	Propulsion	600	0.50	0.0	0	0	0	0	0	0	0.0	0	0.00	0.00	0	2	-	-	-	-	-	-	-	-	-	-
NASSCO	Auxiliary	75	0.31	4.0	0	0	0	0	0	0	0	0	0.00	0.00	0	2	-	-	-	-	-	-	-	-	-	-

hours/year existing 32
 new

Tug and Barge Activity

Distances, from Pacific Tugboat HQ

	nm	time r/t		conversions	
Shelter Island	4.1			g to lbs	0.00220
Harbor Island	3		BBB	g to MT	0.000001
Nth Embarc	1.86	0.6		g to ton	1.1E-06
Sth Embarc	1		distance and time	lbs to ton	0.0005
	avg of BBB	2.49		lbs to MT	0.000454
Glorrieta Bay	1.2	0.4		GWP CH4	25 AR4
Chula Vista	5.0	1.7		GWP N2O	298 AR4
National City	3.6	1.2	(assume off Pepper Park)	hp to kw	0.7457
Our Lady of Peace	0.00	0.0		HC to ROG	1.26639 ARB CMAQ and Carl Moyer guidance
USS Midway	2.2	0.7		PM2.5/PM10	0.92 from EPA Ports methods; used in Maritime Inventories
NASSCO	0.0	0.0			

Activity data

2	tugs per barge	EPA nonroad
4	barges; all other shows 1 barge	https://www3.epa.gov/otaq/models/nonrdmdl/nonrdmdl2010/420r10015.pdf
8	total tugs for BBB; 2 for other shows	ARB HC conversion
6	kts speed in harbor, per POSD Inventory	http://www.arb.ca.gov/planning/tsaq/eval/evaltables.pdf
2	trips	
4.0	total hours including transit and anchored/each (regardless of show length)	

Firework Delivery Trips

Assume delivery from POLA to SD

118 miles, one-way

1 truck, assume round-trip

Truck is EMFAC T7 Single Construction, annual average, aggregated rates, aggregated MY
PM10 and PM2.5 includes road dust

	Existing		Existing Plus Project		new shows	
	daily	annual	daily	annual	daily	annual
events on peak 4th of July day	3	3	5	5	2	2
non-4th	4	46	5	49	1	3
	4	49	5	53	3	5

(3 Chula; 1 NC)

Events	VMT	ROG	NOX	CO	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2e
emission factor (g/mi) -->		0.20	6.51	0.74	0.02	0.46	0.18	1684	0.009	0.04	-

Existing Shows

				<i>lbs</i>						<i>Metric tons</i>			
<i>Daily</i>													
Each show	1	236	0	3	0	0	0	0	0.4	0.0	0.0	0.4	
All 4th shows	3	708	0	10	1	0	1	0	1.2	0.0	0.0	1.2	
max shows on non-4th	4	944	0	14	2	0	1	0	1.6	0.0	0.0	1.6	
<i>Annual</i>				<i>tons</i>						<i>Metric tons</i>			
All 4th shows	3	708	0	0	0	0	0	0	1.19	0.00	0.00	1.2	
non-4th shows	46	10856	0	0	0	0	0	0	18.28	0.00	0.00	18.4	

Project Shows

				<i>lbs</i>						<i>Metric tons</i>			
<i>Daily</i>													
Each show	1	236	0	3	0	0	0	0	0.4	0.0	0.0	0.4	
All 4th shows	2	472	0	7	1	0	0	0	0.8	0.0	0.0	0.8	
max shows on non-4th	1	236	0	3	0	0	0	0	0.4	0.0	0.0	0.4	
<i>Annual</i>				<i>tons</i>						<i>Metric tons</i>			
All 4th shows	2	472	0	0	0	0	0	0	0.79	0.00	0.00	0.8	
non-4th shows	3	1416	0	0	0	0	0	0	2.38	0.00	0.00	2.4	

Existing Plus Project Shows

				<i>lbs</i>						<i>Metric tons</i>			
<i>Daily</i>													
Each show	1	236	0	3	0	0	0	0	0.4	0.0	0.0	0.4	
All 4th shows	5	1180	1	17	2	0	1	0	2.0	0.0	0.0	2.0	
max shows on non-4th	5	1180	1	17	2	0	1	0	2.0	0.0	0.0	2.0	
<i>Annual</i>				<i>tons</i>						<i>Metric tons</i>			
All 4th shows	5	1180	0	0	0	0	0	0	1.99	0.00	0.00	2.0	
non-4th shows	49	11564	0	0	0	0	0	0	19.48	0.00	0.00	19.6	

Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.

Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Re-entrained Paved Road Dust Emission Factor Calculation

Methodology

Calculation Methodology: USEPA AP-42, Paved Roads, Section 13.2.1, Revised January 2011:

<http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf>

Precip days and Silt Loadin:

<http://www.wrcc.dri.edu/cgi-bin/cliGCStP.pl?ca7740>

Avg Vehicle Weight from ARB's method update (2014):

http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2014.pdf

Emission Factor Calculation

$$E_{ext} = [k (sL)^{0.91} \times (W)^{1.02}] (1 - P/4N)$$

Pollutant	Variables					Emission Factor (grams per VMT)
	k	sL	W	P	N	
PM10	1.00	0.1	2.4	40	365	0.29225
PM2.5	0.25	0.1	2.4	40	365	0.07306

E = particulate emission factor (grams of particulate matter/VMT)

k = particle size multiplier (lb/VMT)

sL = roadway silt loading (g/m2)

W = average weight of vehicles on the road (tons)

P = number of wet days with at least 0.254mm of precipitation

N = number of days in the averaging period

default from AP-42

CalEEmod default

ARB 2014

CalEEmod Appx D

annual days (365)

Health Risk Assessment Sheets

- **Health Risk Technical Report**
- **Risk and Concentrations Sheets**
- **OBOD model outputs**

ACUTE AIR TOXICS HEALTH RISK ASSESSMENT FOR THE BIG BAY BOOM FIREWORKS DISPLAY

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Acronyms and Abbreviations

BBB	Big Bay Boom
CARB	California Air Resources Board
Cal/EPA	California Environmental Protection Agency
CAAQS	California Ambient Air Quality Standard
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CPF	cancer potency factor
Cu	Elemental Copper
EPA	U.S. Environmental Protection Agency
HI	Hazard Index
HRA	health risk assessment
MEI	maximum exposed individual
NAAQS	National Ambient Air Quality Standard
OEHHA	Office of Environmental Health Hazard Assessment
PM25	particulate matter less than 10 microns in diameter
PM10	particulate matter less than 10 microns in diameter
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
TAC	toxic air contaminant

Executive Summary

The following acute air toxics Health Risk Assessment (HRA) and ambient air quality assessment was prepared to evaluate the acute health risk effects of toxic air contaminant (TAC) emissions from the July 2015 Big Bay Boom (BBB) Fireworks 4th of July Fireworks event in San Diego Bay. Because of the short duration of this event the focus was on those TAC compounds that are known or suspected to cause adverse health effects after short-term (acute) exposure.

The firework emissions from the BBB occur from four barges located within the San Diego Bay. An air dispersion model was utilized to quantify the acute health risk for TAC emissions and air quality impacts for criteria air pollutants. This HRA and air quality assessment concluded the following for the 2015 BBB event:

- TAC emissions, primarily from elemental copper, result in a potential exceedance of the acute hazard index via the respiratory pathway.
- Particulate emissions result in a potential exceedance of PM10 (state 24-hour) and PM2.5 (both state and federal 24-hour) standards.

The modeling of the 2015 BBB event represents a reasonably conservative assessment. Under the most adverse meteorological conditions (low wind speeds), visitors to the fireworks viewing areas directly downwind of the barges likely observe the highest concentrations during the shows.

Chapter 1

Introduction

The San Diego Unified Port District (District) proposes to allow for continuation of fireworks display events that occur within the San Diego Bay and Imperial Beach Oceanfront. The project includes various fireworks displays currently requiring a discretionary action by the District, including the annual Big Bay Boom in the San Diego Bay and the Fourth of July Imperial Beach Fireworks show in the Pacific Ocean near Imperial Beach, along with other fireworks displays throughout the year, including the San Diego Symphony's Summer Pops concert series, which includes 20 displays per year, and Our Lady of Rosary Church annual procession, and various other shows that take place both on barges and off piers.

The Big Bay Boom (BBB) is a large, multi-barge outdoor fireworks display event that takes place in North San Diego Bay on the Fourth of July. The 2015 BBB event was an 18 minute fireworks display that took place on four barges (moved by tug boats) placed around San Diego Bay near Central Embarcadero, North Embarcadero, Harbor Island, and Shelter Island.

The assessment and dispersion modeling methodologies used in the preparation of this air toxics Health Risk Assessment (HRA) consist of methodologies and assumptions presented by the U.S. Environmental Protection Agency (EPA), California Environmental Protection Agency (Cal/EPA), and California Office of Environmental Health Hazard Assessment (OEHHA). However, the standard air dispersion modeling approach using EPA's regulatory model, AERMOD, was not used as the air dispersion model is not designed for modeling explosive energetic releases. The more appropriate model, OBOD (version 1.3.0024, 2007) was used to model the near instantaneous and energetic firework emission releases. The acute risk assessment values are those presented by OEHHA and the California Air Resources Board (CARB) in OEHHA's current (2015) *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments*. The acute air quality assessment was assessed for particulate matter for both PM10 and PM2.5, as these are by far the most important and abundant criteria air pollutant emitted from the display. The sources, methodology, and results are summarized below.

1.1 Purpose for Analysis

The BBB is by far the largest display, affecting the largest area involving the most amount of fireworks. The BBB lasts approximately 18 minutes once a year. While the type of metals of fireworks events can vary from firework display to display based on the ingredients used to generate colors, there are key toxic pollutants that are of most concern that have acute health effects, including copper (Cu). Given the short-term and infrequent nature of the largest events, this analysis focuses solely on the short-term (acute) exposure and does not focus on the long-term (chronic) effects of the fireworks shows.

1.2 Background Air Toxics

The analysis of the acute health risks is intended to identify the impacts from current activity for an individual's acute health risk from the four barges from which the emissions originate.

The risk assessment process involves four basic steps: (1) hazard identification, (2) exposure assessment, (3) dose-response assessment, and (4) risk characterization. In the first step, hazard identification involves determining the potential health effects that may be associated with emitted pollutants. The purpose is to identify qualitatively whether a pollutant is a potential adverse health effects. Depending on the chemical, these health effects may involve short-term ailments or chronic diseases. The purpose of the exposure assessment is to estimate the extent of exposure to each substance for which risk will be quantitatively evaluated. This involves emissions quantification, modeling of environmental transport and dispersion, evaluation of environmental fate, identification of exposure routes, identification of exposed populations, and estimation of short-term exposure levels. The dose-response assessment is designed to characterize the relationship between the amount or dose of a chemical and its toxicological effect on the human body. Responses to toxic chemicals will vary, depending on the amount and length of exposure. Risk characterization is the integration of the health effects and public exposure information developed for emitted pollutants to provide a quantitative probability of adverse health effects.

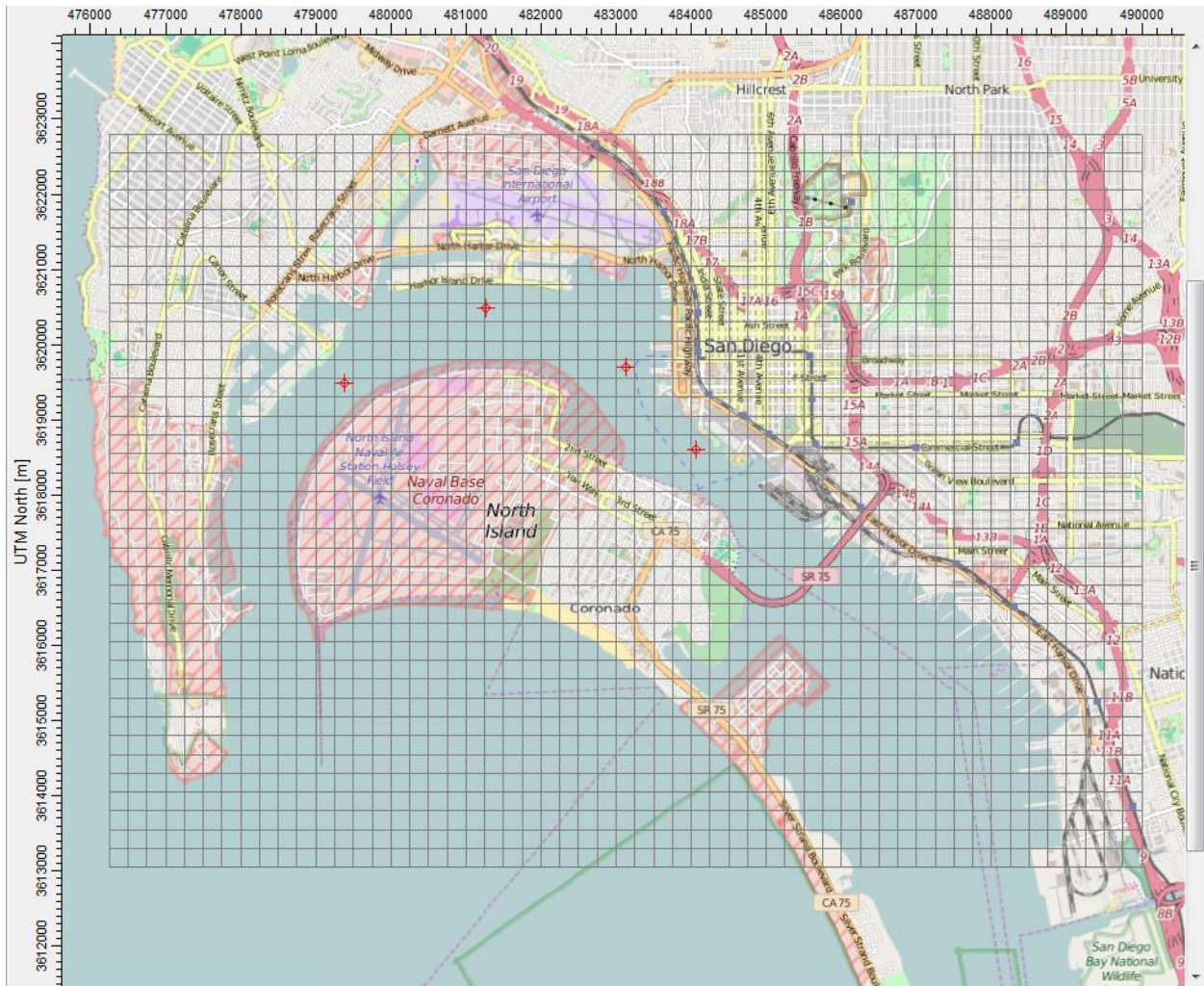
Each of the four barges identified in this HRA emits a number of TACs in various quantities from their combustion. These include both metals and volatile organic compounds.

In order to estimate concentrations and subsequent risk to the exposed population sources fireworks were modeled as instantaneous release volume source with emissions distributed evenly across all four barges. Two set of receptors were used in the analysis: (1) a discrete receptors every 20 degrees along the perimeter of the 300 yard safety zone for each barge and at the San Diego SDAPCD's Barrio Logan monitor site location and (2) a uniform 250-m grid centered over the Navy Base (Figure 1).

The air dispersion modeling used an estimated duration of 20-minutes for the fireworks show and results for the maximum hourly average concentrations determined for each receptor was modeled for both TACs and criteria pollutants. Health risks were conservatively assessed for the TACs with acute health effects along with the criteria pollutants with short-term emission federal and state standards.

OBOD output files are provided in Appendix A.

Figure 1. Study area for the air dispersion modeling for the BBB, receptor grid and barge locations and their surrounding safety zone.



2.1 Background

Studies have found that the release of fireworks can be an important source category for atmospheric particulate matter (Vecchi et al., 2008). Fireworks can influence the particulate matter directly by emitting firework-related species (such as certain heavy metals) and other particles which includes both light and heavy metals, elemental and organic carbon and perchlorate compounds. Additionally, the indirect effects, which are indirectly caused by the activities of firework displays, should be taken into consideration for firework events. This includes: biomass combustion (fireworks made from the paper, aerial shell, fuse and other igniter materials).

Although firework-related emissions are relatively infrequent, they are highly concentrated and their influence can be seen in the national air quality observation network (Seidel, 2015). Both the direct and indirect influences of fireworks might significantly contribute to PM₁₀, PM_{2.5} and total metal emissions.

2.2 Emission Sources

The fireworks emissions can then be divided into those emissions which occur directly from the fireworks themselves and a biomass fraction which is indirect emissions resulting from the incineration of materials made from the paper and an igniter material. The direct fireworks mass fraction mass will be released at the top of the trajectory when the aerial shell explodes. These are separated into a lift charge portion that occurs during initial lifting of the aerial firework followed by the release of the firework shell explosion near the top of the trajectory. The biomass (indirect) contribution is released near ground level. Each of these emission sources were explicitly modeled in the air dispersion model.

2.1.1 Direct Sources

Particle generation from the total combustion mass ranges from 5 to 13% of the total mass (Croteau, 2010). More refined estimates of these emission factor for PM-10, PM-2.5, metals, criteria pollutants and VOC (includes formaldehyde, acetaldehyde and acrolein) were available from the paper: "Emission factors and exposures from ground-level pyrotechnics" (Croteau, 2010). The aerial shells from the BBB are most similar in characteristic to the Roman Candle "B" projectile as measured following combustion testing performed in a burn room.

The amount of firework used was based on Attachment C – Public Display of Fireworks Post Event Report From for the July 4, 2015 Big Bay Boom fireworks display event. A total of 5,342 pounds of net firework explosive was consumed. The fireworks were distributed equally across all four barges.

2.1.2 Indirect Sources

Tian et al. (2014) reported the fraction of the direct fireworks emissions, relative to the total PM-10 and PM-2.5, as 70.2% for PM-10 and 80.6% PM2.5 with the remainder as biomass emissions. Thus the biomass emissions for PM-10 are 29.8% and 19.4% for PM2.5 of the total for size group. The amount of material available as biomass emissions was estimated as equal to the net explosive weight (Kosanke and Kosanke 1990). The biomass combustion profiles for PM-10 and PM-2.5 were based on the values reported in Tian et al (2014) and Akagi et al. (2011), respectively.

2.3 Particle Size Distribution

The rate at which particle matter is removed from the atmosphere and deposited to the ground is primarily a function of the particle sizes found following the explosion of the fireworks. The best information available on particle size distribution is available in a study by Khaparde et al. (2011) in which they measured the particles size mass distribution for eight size bin particles ranging from a mean mass diameter size of 10 micrometers to 0.4 micrometers over multiple days. ICF identified that the particle size distribution information collected on October 28, 2008 during the most active firework period of the Diwali festival best corresponds to the aerial explosion firework activities in the BBB. The particle size distribution was used to model both deposition of particulate matter to the earth surface but also the removal from the atmospheric mass concentration.

2.4 Release Height and Initial Size of Cloud Burst

The air dispersion model needs information on the detonation height for the aerial releases. The aerial shell releases were divided into two phases: (1) the initial burn of gunpowder to launch the aerial shell and (2) the detonation height of the aerial shell. The initial burn of gunpowder was assumed to have an average release height of 15 feet. The heights of the firework material explosive releases were based on reported burst heights as compiled by Poulton and Kosanke (1995) as a function of shell size. These ranged from 400 feet for a 3-in shell to 1075 feet for a 10-inch shell. Similarly, for the low-level releases from the fireworks described as mines and multi-shots were also modeled as having two parts with the initial burn again assumed to have an average release height of 15 feet, while the mines were assumed to have a release height of 100 feet and the multi-shots 125 feet. These were based on the lower reported release heights in the event permit.

In addition the air dispersion model requires the specification of the initial diameter of the firework cloud following the explosion of the firework material. Here we used the burst radius of aerial shells as compiled by Poulton and Kosanke (1995) as a function of shell size. These ranged from 125 foot radius for the 3-inch shells to 425 feet for the 10-inch shells.

2.5 Emissions Inventory Compilation

The criteria and TAC emissions was based on the Attachment C – Public Display of Fireworks Post Event Report From for the July 4, 2015 Big Bay Boom event as noted above with the speciation of the TAC's and criteria pollutant based on the work by Croteau et al. (2010) and for biomass the work by Tian et al., (2014). These summary results are reported in Table 2.1 below. While the emissions

are reported as daily emissions it should be noted the emissions all occur within an 18-20 minute window starting at around 9pm local time.

Table 2-1. Estimate of Mass Emissions during Big Bay Boom Event

Pollutant	Estimated Emissions per Peak Day Event (in pounds)
PM10	476.6
PM2.5	328.8
SO ₂	157.6
Copper	23.7
Hexavalent Chromium	0.04
Lead	0.05
Formaldehyde	0.06
Acetaldehyde	0.26
Acrolein	0.05
Napthlene	0.42

3.1 Risk Characterization

3.1.1 Air Dispersion

The air quality model needed to assess the impacts from firework aerial displays must be capable of modeling near-instantaneous releases, atmospheric dispersion processes and transport of the firework emissions. The standard USEPA air dispersion model, AERMOD, does not have the capability to model near instantaneous releases (i.e., releases much less than one hour) nor does AERMOD include the energy from the detonation of the firework material; however EPA does list on their Support Center for Regulatory Application the use of an alternative model intended for use in evaluating the potential air quality impacts from open burning and open detonation (OBOD) from solid propellants. The Department of Defense US Army developed the OBOD model (version 1.3.24) to specifically address the disposal of ammunition either by burning or detonation of the munitions. OBOD uses cloud/plume rise dispersion, and deposition algorithms for modeling instantaneous and quasi-continuous sources to predict the downwind transport and dispersion of pollutants released from an open detonation. This model is directly applicable for modeling firework releases after specifying the burst height of the fireworks aerial shell. Moreover, as noted in other risk assessment studies, (e.g., the Disneyland Health Risk Assessment) (York, 2007) the OBOD model was identified as the more appropriate model for the modeling of pyrotechnic displays.

The model was used to calculate the concentration of directly emitted criteria and TAC pollutants from the identified sources.

Dispersion models such as OBOD require local meteorological parameters such as wind speed, stability class, mixing height, and temperature. Hourly averaged meteorological data from San Diego APCD Downtown monitoring station was used as input to the OBOD model for the hour specific event. The hourly average wind speed was 4.8 mph, wind direction was from 280 degrees and the temperature 67.5° F over the 9 pm to 10 pm local daylight time on July 4th period.

3.1.2 Acute Exposure Assessment

California and National Ambient Air Quality Standards have been developed to protect the public health from short-term exposure from criteria air pollutants. Modeling results from criteria air pollutants emission from the event modeling are compared with applicable short-term air quality standards.

OEHAA has established guidelines for determining the impact of acutely toxic substances. Short-term exposure risks are characterized in terms of a hazard index (HI). OEHHA generally recognizes that a HI greater than 1.0 means that expected exposure levels have the potential to pose adverse health effects. HI levels less than 1.0 is considered safe from any adverse health effects.

3.1.3 Modeled to Monitored Comparison

To provide further understanding and instill confidence in the modeling results given the relative uncertainties with the emission source strength and source characterization we compared the modeled results with the Beardsley hourly PM_{2.5} monitored concentration. During the 2015 BBB event this station reported a concentration for the 9-10 pm hourly average of 25.8 µg/m³ which we estimated included a background concentration of 5.4 µg/m³ resulting in a net concentration due to the BBB of 20.4 µg/m³. OBOD concentration model for this location was estimated at 67.5 µg/m³ with most (90%) due to the direct fireworks explosive display. While this represents a sizeable over estimate we note that within 200 meters the modeled concentration was just 18.7 µg/m³. We estimate that only a small change in wind direction (~ 5 degrees) would be sufficient to bring the modeled concentration into close agreement with the monitored concentration. This is well within the uncertainty of the wind direction as, for example, the nearby Naval Air Station on Coronado Island reported a 1-min average wind directions of 320 degrees at 8:52 PM and 290 degrees at 9:52 PM local daylight time; a 30-degree variation in wind over a one hour timeframe, well beyond the 5 degree variation noted above

3.1.4 Variability in Meteorological Conditions

The study here modeled the air quality impact for the meteorology that occurred in 2015. To assess the possible impact for future years we developed a wind rose for the past ten years for one week before and one week after the 4th of July for the 9 pm hour¹. Figure 2 shows the variability in wind direction, wind speed and frequency of occurrence. For the 2015 BBB the wind speed was 2.1 m/s (4.8 mph) with a 280 degree wind direction which corresponds to a westerly wind in the wind rose and lies within the yellow colored bar. Considerably higher wind speed (red, blue, green) occur about 40% of the time which will result in lower concentrations due to better transport and dispersion, similar wind speeds occur about 33% of the time and about 17% of the time wind speeds are about half as strong and 10% of the time wind speeds less than 1 m/s occur which have been classified as calm. Both the lower wind speed and calm conditions will lead to considerably higher peak concentrations but will impact a smaller area. To answer the question about how representative this particular day was the OBOD model was run with all of the valid meteorological data as shown in the wind rose. Out of the valid hours² the 4th of July 2015 ranked 27th highest which is just at the 80th percentile ranking. Thus the modeling reported here represents a reasonably conservative impact of the BBB firework display; however under the most adverse meteorological conditions (low wind speeds) and viewing areas directly downwind of the barges considerably higher concentration may occur.

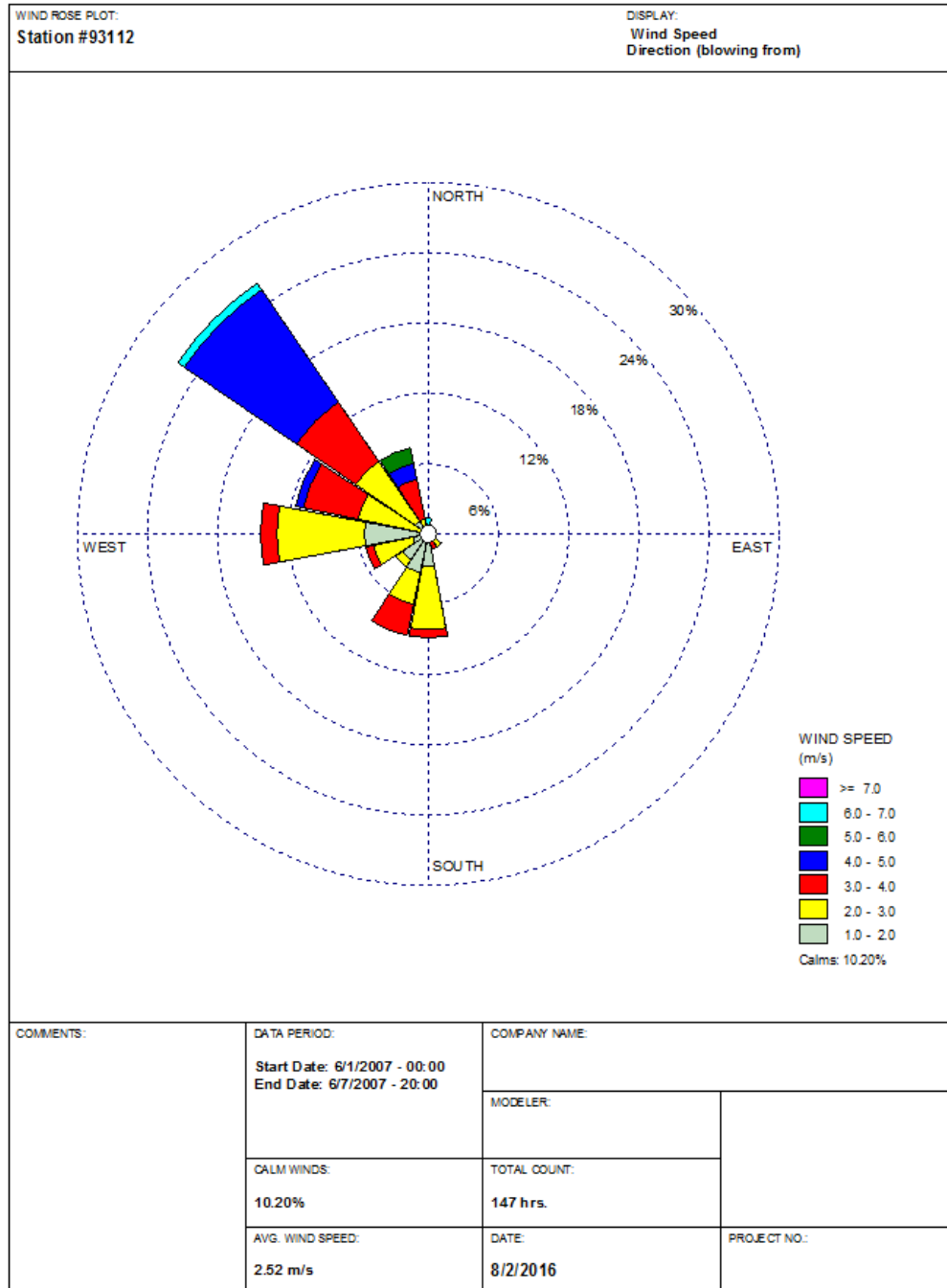
The viewing areas are strongly impacted by the wind direction. The viewing location nearest the Shelter Island Barge is rarely exposed to air pollutant from the BBB as wind direction rarely have an easterly wind component. The viewing areas closest to the Harbor Island Barge are directly downwind about 20% of the time. The viewing areas closest to the North and South Embarcadero Barges are the locations with the highest probability of exposure although concentrations may be somewhat lower due to the stronger wind speeds. The most frequent wind direction is from the northwest in which the fireworks emissions from the North and South Embarcadero Barges are in

¹ Two hours reported variable wind directions and one hour was missing so only 147 hours are analyzed.

² Fourteen hours were reported as calm winds or below the instrument detection limit bringing the total number of valid hours for OBOD modeling to 133.

alignment leading to a broader area exposed to high concentrations downwind located southeast of downtown.

Figure 2. Wind rose of the one week before and one week after the Fourth of July for the past ten years (2007-2016) for hour 9 pm local daylight time.



WRPLOT View - Lakes Environmental Software

Chapter 4 Conclusion

Acute exposures from all considered pollutants were considered to derive acute exposure assessment for the maximum exposed individual (MEI) receptor. Comparisons are also made with the criteria pollutants with short-term air quality standards. This assessment was based on the single BBB event based on the 2015 emission and activity levels.

Table 4-1 shows the acute 1-hour MEI as a result of the BBB event in comparison with the acute HI and in comparison to the 1-hour NAAQS and/or 1-hour CAAQS. Only elemental copper shows that a modeled concentration may potentially exceed the acute hazard index. A spatial plot displaying these results is shown in Figure 3. None of the acute 1-hour concentration levels exceeded the 1-hour CAAQS.

Table 4-2 shows the acute 24-hour MEI as a result of the BBB event in comparison with the 24-hour NAAQS and/or the CAAQS. The only air pollutant which may exceed an air quality standard is the 24-hour CAAQS PM10 standard. This had a broad area where the 24-hour concentration may be exceeded as a result of just the BBB event. A spatial plot displaying the dispersion of PM10 emissions is shown in Figure 4.

We also report the maximum modeled PM-10 size particles that was deposited to the surface during the BBB event. We estimate that the maximum amount of PM-10 size particles that may be deposited at about 1.2 g/m², mostly in the form of ammonium perchlorate.

Table 4-1. Acute 1-hour Exposure Levels in Comparison with Reference Levels

Pollutant	Maximum Modeled Concentration (µg/m³)	1-Hour Acute REL (µg/m³)	Maximum Acute Hazard Index	1-hour CAAQS(µg/m³)
Copper	138	100	1.4	---
Sulfur Dioxide	15.2	196	0.08	655
Nitrogen Dioxide	0.056	470	<0.001	339
Carbon Monoxide	0.057	23,800	<0.001	23,800
Formaldehyde	0.022	55	<0.001	---
Acetaldehyde	0.062	470	<0.001	---
Acrolein	0.005	2.5	<0.003	---

Table 4-2. Acute 24-hour Exposure Levels in Comparison with State and Federal Air Quality Standards

Pollutant	Maximum Modeled Concentration (µg/m³)	Background Concentration (µg/m³)	Modeled plus Background Concentration (µg/m³)	24-Hour NAAQS (µg/m³)	24-hour CAAQS (µg/m³)
PM2.5	79.1	14.1	93.2	35	30
PM10	117.0	24.5	141.5	150	50
Sulfur Dioxide	0.63	0.8	1.4	---	105
Lead	0.055	0.4	0.43	---	---

Bold indicates an exceedance

Figure 3. 1-Hour Copper Concentrations during 2015 Big Bay Boom Event

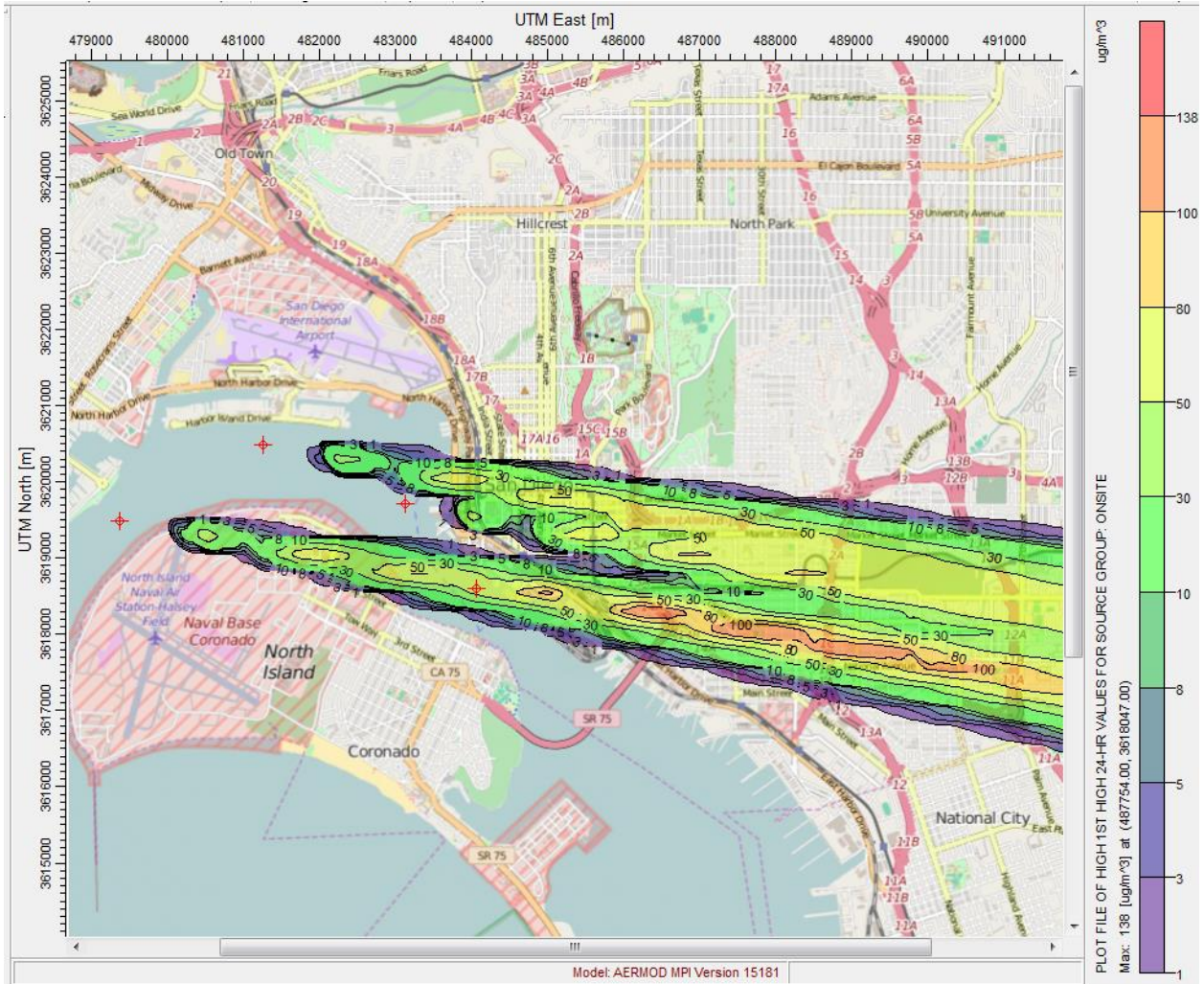
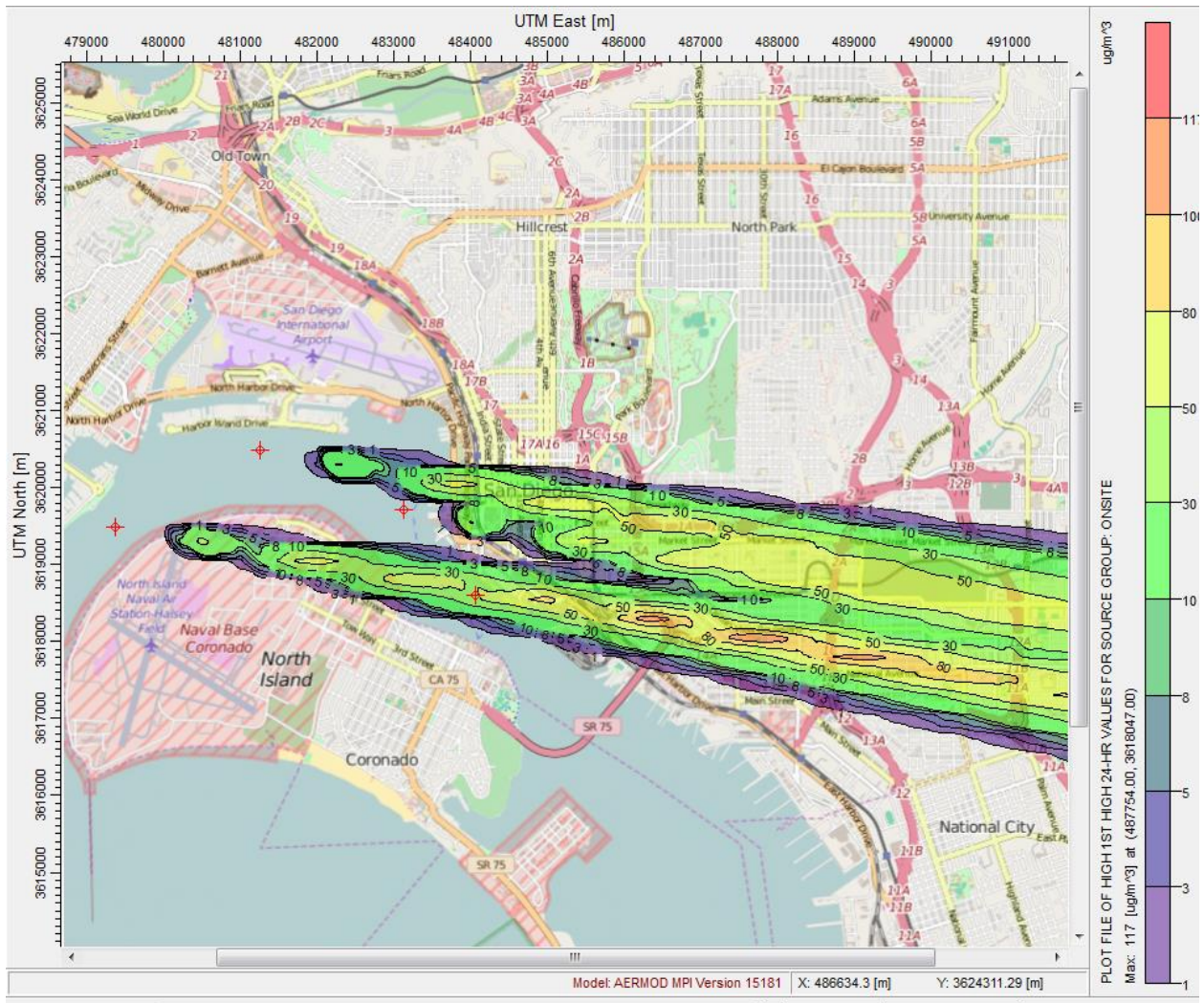


Figure 4. PM10 Concentrations during the 2015 Big Bay Boom Event plus Background



Fuel Type**Pyrotechnique**

Pollutant	Max 1-hour Average Conc (ug/m ³)		Deposition (ug/m ²)	
	Monitor	Grid	Monitor	Grid
PM2.5	100.81	137.75	2,300	2,650
PM10	1462.05	1997.70	33,358	38,433
Pb	0.1749	0.2383		
Cu	79.49	108.34		
Cr+6	0.1207	0.1649		
CO	0.0235	0.0301		
SO2	4.9566	6.3452		
NO2	0.0183	0.0234		
NMHC	0.0084	0.0108		
CO2	62.1676	79.5840		
FORM	0.0014	0.0018		
ACETL	0.0072	0.0092		
Acrolein	0.0014	0.0018		
Total	60.91875	83.2375		

Fuel Type**Propellant, ammonium perc., alum.**

Pollutant	Max 1-hour Average Conc (ug/m ³)		Deposition (ug/m ²)	
	Monitor	Grid	Monitor	Grid
PM2.5	30.65	44.62	336	773
PM10	44.46	64.72	488	1,121
Pb	0.55	0.80		
Cu	0.00			
Cr+6	0.14	0.20		
CO	0.02	0.03		
SO2	3.46	5.62		
NO2	0.01	0.02		
NMHC	0.01	0.01		
CO2	43.35	70.46		
FORM	0.01	0.02		
ACETL	0.02	0.04		
Acrolein	0.00	0.00		
	1.852327965	2.696629129		

Fuel Type**Biomass**

Pollutant	Max 1-hour Average Conc (ug/m ³)		Deposition (ug/m ²)	
	Monitor	Grid	Monitor	Grid
PM2.5	56.44	77.12	1,288	1,484
PM10	113.05	154.47	2,579	2,972
Pb	0.00			
Cu	0.00			
Cr+6	0.00			
CO	0.00			
SO2	0.00			
NO2	0.00			
NMHC	0.00			
CO2	0.00			
FORM	0.00			
ACETL	0.00			
Acrolein	0.00			
	4.710583584	6.436345382		

Total

PM2.5	187.91	259.49	3924.17	4906.59		
PM10	1619.56	2216.89	36424.76	42525.76	67.48	92.37
Pb	0.73					
Cu	79.49					
Cr+6	0.26					
CO	0.04					
SO2	8.41					
NO2	0.03					
NMHC	0.01					
CO2	105.52					
FORM	0.01					
ACETL	0.03					
Acrolein	0.00					

Copper 1-Hour Concentration

UTM X (m)	UTM Y (m)	1-Hour Conc (ug/m3)
487754.00	3618047.00	1.3801E+02
487504.00	3618047.00	1.3230E+02
486254.00	3618297.00	1.2958E+02
488004.00	3618047.00	1.2884E+02
489004.00	3617797.00	1.2674E+02
486504.00	3618297.00	1.2613E+02
489254.00	3617797.00	1.2460E+02
488754.00	3617797.00	1.1937E+02
489504.00	3617797.00	1.1493E+02
487254.00	3618047.00	1.1150E+02
488254.00	3618047.00	1.1090E+02
490504.00	3617547.00	1.1049E+02
490254.00	3617547.00	1.0940E+02
485004.00	3618547.00	1.0834E+02
490754.00	3617547.00	1.0628E+02
486004.00	3618297.00	1.0574E+02
486754.00	3618297.00	1.0562E+02
488504.00	3617797.00	1.0325E+02
490004.00	3617547.00	1.0241E+02
489754.00	3617797.00	1.0084E+02
491004.00	3617547.00	9.8142E+01
491754.00	3617297.00	9.5345E+01
484754.00	3618547.00	9.4724E+01
492004.00	3617297.00	9.4187E+01
491504.00	3617297.00	9.2918E+01
488504.00	3618047.00	9.0366E+01
489754.00	3617547.00	9.0157E+01
491254.00	3617547.00	8.7722E+01
491254.00	3617297.00	8.6766E+01
490004.00	3617797.00	8.5241E+01
487004.00	3619047.00	8.4986E+01
487004.00	3618047.00	8.4179E+01
488254.00	3618797.00	8.3837E+01
488504.00	3618797.00	8.3446E+01
483254.00	3618797.00	8.2871E+01
486754.00	3619047.00	8.2692E+01
485254.00	3619797.00	8.2665E+01
487004.00	3618297.00	8.2331E+01
488254.00	3617797.00	8.2171E+01
485004.00	3619797.00	8.0557E+01
483504.00	3618797.00	8.0554E+01
488754.00	3618797.00	7.9380E+01
487254.00	3619047.00	7.8489E+01

486504.00	3619547.00	7.8265E+01
488004.00	3618797.00	7.8121E+01
491004.00	3617297.00	7.7342E+01
485254.00	3618547.00	7.7173E+01
489754.00	3618547.00	7.7075E+01
490004.00	3618547.00	7.6703E+01
491504.00	3617547.00	7.6529E+01
485754.00	3618297.00	7.6455E+01
484504.00	3618547.00	7.6292E+01
486754.00	3619547.00	7.5509E+01
489504.00	3617547.00	7.4538E+01
490254.00	3618547.00	7.4526E+01
489504.00	3618547.00	7.4517E+01
485504.00	3619797.00	7.4306E+01
489004.00	3618797.00	7.4170E+01
486254.00	3619547.00	7.3980E+01
483004.00	3618797.00	7.2765E+01
482004.00	3619047.00	7.1749E+01
490504.00	3618547.00	7.1548E+01
483754.00	3620047.00	7.1129E+01
488754.00	3618047.00	7.1101E+01
490254.00	3617797.00	7.0229E+01
483754.00	3618797.00	6.9739E+01
491254.00	3618297.00	6.9608E+01
491504.00	3618297.00	6.9542E+01
489254.00	3618797.00	6.9521E+01
487504.00	3619047.00	6.9454E+01
485504.00	3619297.00	6.8745E+01
487754.00	3619297.00	6.8687E+01
490754.00	3618547.00	6.8434E+01
491754.00	3618297.00	6.8367E+01
489254.00	3618547.00	6.8222E+01
488004.00	3619297.00	6.8203E+01
491004.00	3618297.00	6.8080E+01
486504.00	3619047.00	6.7728E+01
487004.00	3619547.00	6.7679E+01
484254.00	3618547.00	6.7208E+01
492004.00	3618297.00	6.6499E+01
489504.00	3618797.00	6.6106E+01
491754.00	3617547.00	6.5753E+01
484754.00	3619797.00	6.5675E+01
490754.00	3617297.00	6.5674E+01
487754.00	3618797.00	6.5523E+01
491004.00	3618547.00	6.5477E+01
484004.00	3620047.00	6.5460E+01
487504.00	3619297.00	6.5163E+01
490754.00	3618297.00	6.4527E+01

481754.00	3619047.00	6.4405E+01
488254.00	3619297.00	6.4211E+01
489754.00	3618797.00	6.3817E+01
491254.00	3618547.00	6.2695E+01
486004.00	3619547.00	6.2500E+01
489004.00	3619047.00	6.2462E+01
487754.00	3619047.00	6.2301E+01
487254.00	3618297.00	6.2187E+01
490004.00	3618797.00	6.2138E+01
488754.00	3619047.00	6.1648E+01
489254.00	3619047.00	6.1598E+01
485754.00	3619297.00	6.1573E+01
488004.00	3617797.00	6.1178E+01
482254.00	3619047.00	6.0885E+01
485754.00	3619797.00	6.0769E+01
486754.00	3618047.00	6.0536E+01
490254.00	3618797.00	6.0473E+01
491504.00	3618547.00	5.9956E+01
488504.00	3619047.00	5.9860E+01
485504.00	3618297.00	5.9538E+01
485504.00	3618547.00	5.9141E+01
489504.00	3619047.00	5.8905E+01
490504.00	3618297.00	5.8754E+01
488004.00	3619047.00	5.8714E+01
488254.00	3619047.00	5.8356E+01
490504.00	3618797.00	5.8353E+01
489004.00	3618547.00	5.8206E+01
487254.00	3619297.00	5.8142E+01
489254.00	3617547.00	5.8110E+01
488504.00	3619297.00	5.7758E+01
492004.00	3617047.00	5.7516E+01
487254.00	3619547.00	5.7245E+01
491754.00	3618547.00	5.7094E+01
490504.00	3617797.00	5.7057E+01
492004.00	3618047.00	5.6408E+01
492004.00	3617547.00	5.6217E+01
484004.00	3618797.00	5.5600E+01
490754.00	3618797.00	5.5526E+01
485254.00	3619297.00	5.5243E+01
483504.00	3620047.00	5.5049E+01
489004.00	3618047.00	5.4806E+01
489754.00	3619047.00	5.4638E+01
492004.00	3618547.00	5.3978E+01
490504.00	3617297.00	5.3141E+01
484004.00	3618547.00	5.2271E+01
482754.00	3618797.00	5.2071E+01
491004.00	3618797.00	5.1949E+01

491754.00	3618047.00	5.1557E+01
490254.00	3618297.00	5.0971E+01
484254.00	3620047.00	5.0102E+01
488754.00	3619297.00	5.0005E+01
487004.00	3619297.00	4.9358E+01
490004.00	3619047.00	4.9267E+01
486004.00	3619297.00	4.8568E+01
487504.00	3618797.00	4.8101E+01
491754.00	3617047.00	4.7861E+01
491254.00	3618797.00	4.7740E+01
485254.00	3618297.00	4.6994E+01
486004.00	3619797.00	4.6484E+01
490754.00	3617797.00	4.6356E+01
485754.00	3619547.00	4.6300E+01
487504.00	3619547.00	4.6277E+01
487504.00	3618297.00	4.6186E+01
485754.00	3618547.00	4.6006E+01
491504.00	3618047.00	4.5667E+01
488754.00	3618547.00	4.5604E+01
482504.00	3619047.00	4.4890E+01
486254.00	3619047.00	4.4023E+01
487754.00	3617797.00	4.3855E+01
486504.00	3618047.00	4.3813E+01
480504.00	3619297.00	4.3684E+01
490254.00	3619047.00	4.3315E+01
489004.00	3617547.00	4.3178E+01
491504.00	3618797.00	4.3104E+01
484504.00	3619797.00	4.2780E+01
489004.00	3619297.00	4.1943E+01
489254.00	3618047.00	4.1930E+01
490004.00	3618297.00	4.1867E+01
484254.00	3618797.00	4.1806E+01
486754.00	3619297.00	4.1517E+01
490254.00	3617297.00	4.1117E+01
486254.00	3619297.00	3.9714E+01
491254.00	3618047.00	3.9211E+01
491004.00	3617797.00	3.8366E+01
491504.00	3617047.00	3.8317E+01
491754.00	3618797.00	3.8275E+01
482254.00	3620297.00	3.8059E+01
484004.00	3619547.00	3.8043E+01
486504.00	3619297.00	3.7558E+01
481504.00	3619047.00	3.7395E+01
490504.00	3619047.00	3.7250E+01
487754.00	3619547.00	3.6112E+01
483754.00	3618547.00	3.5043E+01
486004.00	3618547.00	3.4938E+01

484504.00	3620047.00	3.4890E+01
485004.00	3618297.00	3.4406E+01
489254.00	3619297.00	3.4275E+01
487754.00	3618297.00	3.4043E+01
486254.00	3619797.00	3.3894E+01
492004.00	3618797.00	3.3471E+01
482504.00	3620297.00	3.3263E+01
491254.00	3617797.00	3.3100E+01
491004.00	3618047.00	3.2853E+01
489754.00	3618297.00	3.2528E+01
488504.00	3618547.00	3.2454E+01
489504.00	3618047.00	3.2379E+01
486254.00	3618047.00	3.1961E+01
492004.00	3617797.00	3.1594E+01
490754.00	3619047.00	3.1428E+01
487504.00	3617797.00	3.1087E+01
488754.00	3617547.00	3.1055E+01
490004.00	3617297.00	3.0625E+01
482754.00	3619047.00	3.0623E+01
491504.00	3617797.00	3.0416E+01
487254.00	3618797.00	3.0167E+01
484504.00	3618797.00	3.0129E+01
491754.00	3617797.00	3.0042E+01
485504.00	3619547.00	2.9709E+01
491254.00	3617047.00	2.9585E+01
482504.00	3618797.00	2.9166E+01
489504.00	3619297.00	2.7418E+01
488004.00	3619547.00	2.7414E+01
490754.00	3618047.00	2.7348E+01
480754.00	3619297.00	2.6191E+01
491004.00	3619047.00	2.6087E+01
486254.00	3618547.00	2.5952E+01
489754.00	3618047.00	2.5933E+01
483254.00	3620047.00	2.5735E+01
485004.00	3619297.00	2.5320E+01
488004.00	3618297.00	2.5111E+01
484254.00	3619547.00	2.4526E+01
489504.00	3618297.00	2.4176E+01
486504.00	3619797.00	2.3867E+01
490504.00	3618047.00	2.3420E+01
484754.00	3620047.00	2.2947E+01
484754.00	3618297.00	2.2507E+01
486004.00	3618047.00	2.2445E+01
490004.00	3618047.00	2.2408E+01
489754.00	3617297.00	2.2149E+01
491004.00	3617047.00	2.2122E+01
488504.00	3617547.00	2.1921E+01

487254.00	3617797.00	2.1888E+01
486004.00	3619047.00	2.1737E+01
490254.00	3618047.00	2.1646E+01
489754.00	3619297.00	2.1553E+01
484254.00	3619797.00	2.1446E+01
491254.00	3619047.00	2.1356E+01
484754.00	3618797.00	2.1050E+01
488254.00	3618547.00	2.0975E+01
488254.00	3619547.00	2.0369E+01
483004.00	3619047.00	1.9886E+01
483504.00	3618547.00	1.9782E+01
486504.00	3618547.00	1.8976E+01
488254.00	3618297.00	1.8810E+01
489254.00	3618297.00	1.7847E+01
491504.00	3619047.00	1.7279E+01
485254.00	3619547.00	1.6811E+01
490004.00	3619297.00	1.6704E+01
486754.00	3619797.00	1.6383E+01
492004.00	3616797.00	1.6344E+01
490754.00	3617047.00	1.6097E+01
487004.00	3618797.00	1.5900E+01
489504.00	3617297.00	1.5668E+01
482754.00	3620297.00	1.5324E+01
488254.00	3617547.00	1.5231E+01
487004.00	3617797.00	1.4972E+01
488504.00	3619547.00	1.4885E+01
488504.00	3618297.00	1.4836E+01
480254.00	3619297.00	1.4634E+01
485754.00	3618047.00	1.4536E+01
485004.00	3620047.00	1.4512E+01
485004.00	3618797.00	1.4376E+01
489004.00	3618297.00	1.4147E+01
491754.00	3619047.00	1.3844E+01
486754.00	3618547.00	1.3729E+01
488754.00	3618297.00	1.3206E+01
484504.00	3618297.00	1.2893E+01
481004.00	3619297.00	1.2825E+01
490254.00	3619297.00	1.2799E+01
488004.00	3618547.00	1.2715E+01
481254.00	3619047.00	1.2635E+01
483254.00	3619047.00	1.2473E+01
482254.00	3618797.00	1.2349E+01
491754.00	3616797.00	1.1965E+01
490504.00	3617047.00	1.1441E+01
487004.00	3619797.00	1.1039E+01
492004.00	3619047.00	1.1001E+01
489254.00	3617297.00	1.0857E+01

488754.00	3619547.00	1.0739E+01
488004.00	3617547.00	1.0298E+01
484504.00	3619547.00	1.0082E+01
487004.00	3618547.00	9.9318E+00
490504.00	3619297.00	9.7182E+00
485254.00	3618797.00	9.6575E+00
486754.00	3617797.00	9.6550E+00
485004.00	3619547.00	9.5013E+00
483254.00	3618547.00	9.1582E+00
485254.00	3620047.00	8.9272E+00
491504.00	3616797.00	8.5556E+00
485504.00	3618047.00	8.4802E+00
483004.00	3620297.00	8.4049E+00
487754.00	3618547.00	8.1124E+00
484004.00	3619797.00	7.9853E+00
490254.00	3617047.00	7.9484E+00
485754.00	3619047.00	7.9112E+00
489004.00	3619547.00	7.6741E+00
483504.00	3619047.00	7.6375E+00
487254.00	3618547.00	7.4943E+00
481254.00	3619297.00	7.4777E+00
484754.00	3619547.00	7.3790E+00
487254.00	3619797.00	7.3410E+00
490754.00	3619297.00	7.3259E+00
489004.00	3617297.00	7.3220E+00
486754.00	3618797.00	7.1570E+00
483004.00	3620047.00	6.9077E+00
487504.00	3618547.00	6.6624E+00
487754.00	3617547.00	6.6467E+00
485504.00	3618797.00	6.4150E+00
484254.00	3618297.00	6.3442E+00
484754.00	3619297.00	6.2231E+00
491254.00	3616797.00	5.9756E+00
486504.00	3617797.00	5.7376E+00
491004.00	3619297.00	5.4921E+00
489254.00	3619547.00	5.4458E+00
485504.00	3620047.00	5.3924E+00
490004.00	3617047.00	5.3757E+00
483254.00	3620297.00	5.0482E+00
487504.00	3619797.00	4.8393E+00
488754.00	3617297.00	4.7476E+00
483754.00	3619047.00	4.6052E+00
481504.00	3619297.00	4.4443E+00
485254.00	3618047.00	4.3847E+00
485754.00	3618797.00	4.2415E+00
491254.00	3619297.00	4.1003E+00
491004.00	3616797.00	4.0659E+00

487504.00	3617547.00	4.0201E+00
482004.00	3620297.00	3.9389E+00
489504.00	3619547.00	3.8460E+00
482004.00	3618797.00	3.7980E+00
483754.00	3619547.00	3.6511E+00
489754.00	3617047.00	3.5118E+00
483004.00	3618547.00	3.3766E+00
486504.00	3618797.00	3.2488E+00
485754.00	3620047.00	3.2228E+00
487754.00	3619797.00	3.1732E+00
492004.00	3616547.00	3.1588E+00
486254.00	3617797.00	3.0937E+00
491504.00	3619297.00	3.0522E+00
483504.00	3620297.00	2.9264E+00
488504.00	3617297.00	2.9197E+00
486004.00	3618797.00	2.8708E+00
484004.00	3619047.00	2.7536E+00
489754.00	3619547.00	2.7080E+00
490754.00	3616797.00	2.6810E+00
484004.00	3618297.00	2.6278E+00
481004.00	3619047.00	2.5663E+00
481754.00	3619297.00	2.5560E+00
486254.00	3618797.00	2.3262E+00
491754.00	3619297.00	2.2677E+00
487254.00	3617547.00	2.2467E+00
489504.00	3617047.00	2.1944E+00
483754.00	3619797.00	2.1063E+00
491754.00	3616547.00	2.1047E+00
488004.00	3619797.00	2.0756E+00
485504.00	3619047.00	2.0696E+00
485004.00	3618047.00	1.9797E+00
486004.00	3620047.00	1.9173E+00
490004.00	3619547.00	1.9038E+00
490504.00	3616797.00	1.7013E+00
492004.00	3619297.00	1.6830E+00
488254.00	3617297.00	1.6828E+00
483754.00	3620297.00	1.6633E+00
484254.00	3619047.00	1.6415E+00
486004.00	3617797.00	1.4951E+00
482004.00	3619297.00	1.4491E+00
488254.00	3619797.00	1.3572E+00
491504.00	3616547.00	1.3558E+00
490254.00	3619547.00	1.3381E+00
489254.00	3617047.00	1.2990E+00
487004.00	3617547.00	1.1476E+00
486254.00	3620047.00	1.1404E+00
482754.00	3620047.00	1.1317E+00

490254.00	3616797.00	1.0313E+00
484504.00	3619047.00	9.7965E-01
482754.00	3618547.00	9.6792E-01
490504.00	3619547.00	9.4115E-01
484004.00	3620297.00	9.2888E-01
484504.00	3619297.00	9.2776E-01
488004.00	3617297.00	9.0008E-01
483754.00	3618297.00	9.0002E-01
488504.00	3619797.00	8.8878E-01
491254.00	3616547.00	8.3949E-01
481754.00	3618797.00	8.0011E-01
482254.00	3619297.00	7.9746E-01
484754.00	3618047.00	7.6990E-01
489004.00	3617047.00	7.2238E-01
486504.00	3620047.00	6.8042E-01
490754.00	3619547.00	6.6303E-01
485754.00	3617797.00	6.4047E-01
490004.00	3616797.00	5.9288E-01
484754.00	3619047.00	5.9062E-01
488754.00	3619797.00	5.8371E-01
485254.00	3619047.00	5.4300E-01
486754.00	3617547.00	5.3079E-01
484254.00	3620297.00	5.0835E-01
491004.00	3616547.00	4.9678E-01
491004.00	3619547.00	4.6817E-01
487754.00	3617297.00	4.4316E-01
482504.00	3619297.00	4.3776E-01
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486754.00	3616547.00	3.3456E-10
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482504.00	3614297.00	3.0786E-20
482754.00	3615797.00	3.0549E-20
483754.00	3621547.00	3.0328E-20
482254.00	3613047.00	3.0309E-20
482504.00	3614547.00	3.0086E-20
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482254.00	3613297.00	2.9656E-20
482504.00	3614797.00	2.9459E-20
482754.00	3616297.00	2.9271E-20
483754.00	3622047.00	2.9101E-20
482254.00	3613547.00	2.9086E-20
482504.00	3615047.00	2.8919E-20
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482504.00	3615297.00	2.8475E-20
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483754.00	3622547.00	2.8238E-20
482254.00	3614047.00	2.8228E-20
482504.00	3615547.00	2.8121E-20
483504.00	3621297.00	2.8025E-20
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483754.00	3622797.00	2.7932E-20
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482754.00	3617297.00	2.7758E-20
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482504.00	3616047.00	2.7604E-20

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482504.00	3616297.00	2.7376E-20
483504.00	3622047.00	2.7306E-20
482004.00	3613547.00	2.7300E-20
482254.00	3615047.00	2.7227E-20
482504.00	3616547.00	2.7155E-20
483504.00	3622297.00	2.7085E-20
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482254.00	3615297.00	2.7007E-20
482504.00	3616797.00	2.6934E-20
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482004.00	3614047.00	2.6858E-20
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482254.00	3617047.00	2.5449E-20
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482254.00	3617297.00	2.5225E-20

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483004.00	3621797.00	2.5003E-20
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482754.00	3621547.00	2.3901E-20
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481504.00	3614547.00	2.3816E-20
481754.00	3616047.00	2.3736E-20
482754.00	3621797.00	2.3660E-20
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481504.00	3614797.00	2.3573E-20
481754.00	3616297.00	2.3492E-20
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481504.00	3615047.00	2.3327E-20
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482754.00	3622547.00	2.2911E-20
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482504.00	3621297.00	2.2734E-20

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481504.00	3615797.00	2.2550E-20
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481754.00	3617547.00	2.2170E-20
481004.00	3613297.00	2.2165E-20
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481504.00	3616297.00	2.1961E-20
482504.00	3622047.00	2.1861E-20
481754.00	3617797.00	2.1857E-20
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481004.00	3613797.00	2.1520E-20
481254.00	3615297.00	2.1406E-20
481504.00	3616797.00	2.1288E-20
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481004.00	3614047.00	2.1159E-20
481254.00	3615547.00	2.1032E-20
482254.00	3621297.00	2.0908E-20
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480754.00	3614547.00	1.7208E-20
481004.00	3616047.00	1.6984E-20
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481254.00	3617547.00	1.6755E-20
480504.00	3613297.00	1.6745E-20
480754.00	3614797.00	1.6513E-20
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481254.00	3617797.00	1.6025E-20
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481004.00	3617047.00	1.3931E-20
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480754.00	3616047.00	1.2731E-20
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481004.00	3617547.00	1.2515E-20
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480504.00	3614797.00	1.2301E-20

480754.00	3616297.00	1.2105E-20
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481004.00	3617797.00	1.1920E-20
480254.00	3613547.00	1.1913E-20
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480754.00	3616547.00	1.1576E-20
481754.00	3622297.00	1.1431E-20
481004.00	3618047.00	1.1425E-20
480254.00	3613797.00	1.1419E-20
480504.00	3615297.00	1.1279E-20
480754.00	3616797.00	1.1149E-20
481754.00	3622547.00	1.1036E-20
480254.00	3614047.00	1.1026E-20
480504.00	3615547.00	1.0918E-20
481504.00	3621297.00	1.0823E-20
480754.00	3617047.00	1.0819E-20
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480254.00	3614297.00	1.0724E-20
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480754.00	3617297.00	1.0565E-20
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480254.00	3614547.00	1.0491E-20
480504.00	3616047.00	1.0425E-20
481504.00	3621797.00	1.0366E-20
480754.00	3617547.00	1.0363E-20
480004.00	3613297.00	1.0360E-20
480254.00	3614797.00	1.0293E-20
481254.00	3620547.00	1.0241E-20
480504.00	3616297.00	1.0239E-20
481504.00	3622047.00	1.0187E-20
480754.00	3617797.00	1.0185E-20
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480254.00	3615047.00	1.0129E-20
481254.00	3620797.00	1.0079E-20
480504.00	3616547.00	1.0076E-20
481504.00	3622297.00	1.0026E-20
480754.00	3618047.00	1.0024E-20
480004.00	3613797.00	1.0022E-20
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481254.00	3621047.00	9.9200E-21
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480504.00	3617047.00	9.7631E-21

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480504.00	3617297.00	9.6121E-21
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480504.00	3617547.00	9.4648E-21
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480504.00	3617797.00	9.3130E-21
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480504.00	3618047.00	9.1628E-21
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481004.00	3621297.00	8.9231E-21
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479754.00	3614297.00	8.8726E-21
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479754.00	3614547.00	8.7322E-21
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479754.00	3615297.00	8.3091E-21
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481004.00	3622547.00	8.2140E-21
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479754.00	3615547.00	8.1601E-21
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479754.00	3616047.00	7.8352E-21
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479754.00	3616297.00	7.6528E-21
480754.00	3622047.00	7.5917E-21
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480504.00	3621047.00	7.2319E-21
479754.00	3616797.00	7.2286E-21

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479754.00	3617047.00	6.9784E-21
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480504.00	3621547.00	6.7008E-21
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479504.00	3616047.00	6.4878E-21
480504.00	3621797.00	6.3839E-21
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476754.00	3620797.00	0.0000E+00
477004.00	3620797.00	0.0000E+00
477254.00	3620797.00	0.0000E+00
477504.00	3620797.00	0.0000E+00
477754.00	3620797.00	0.0000E+00
478004.00	3620797.00	0.0000E+00
478254.00	3620797.00	0.0000E+00
478504.00	3620797.00	0.0000E+00
478754.00	3620797.00	0.0000E+00

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479254.00	3620797.00	0.0000E+00
479504.00	3620797.00	0.0000E+00
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476504.00	3621047.00	0.0000E+00
476754.00	3621047.00	0.0000E+00
477004.00	3621047.00	0.0000E+00
477254.00	3621047.00	0.0000E+00
477504.00	3621047.00	0.0000E+00
477754.00	3621047.00	0.0000E+00
478004.00	3621047.00	0.0000E+00
478254.00	3621047.00	0.0000E+00
478504.00	3621047.00	0.0000E+00
478754.00	3621047.00	0.0000E+00
479004.00	3621047.00	0.0000E+00
479254.00	3621047.00	0.0000E+00
479504.00	3621047.00	0.0000E+00
476254.00	3621297.00	0.0000E+00
476504.00	3621297.00	0.0000E+00
476754.00	3621297.00	0.0000E+00
477004.00	3621297.00	0.0000E+00
477254.00	3621297.00	0.0000E+00
477504.00	3621297.00	0.0000E+00
477754.00	3621297.00	0.0000E+00
478004.00	3621297.00	0.0000E+00
478254.00	3621297.00	0.0000E+00
478504.00	3621297.00	0.0000E+00
478754.00	3621297.00	0.0000E+00
479004.00	3621297.00	0.0000E+00
479254.00	3621297.00	0.0000E+00
479504.00	3621297.00	0.0000E+00
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476504.00	3621547.00	0.0000E+00
476754.00	3621547.00	0.0000E+00
477004.00	3621547.00	0.0000E+00
477254.00	3621547.00	0.0000E+00
477504.00	3621547.00	0.0000E+00
477754.00	3621547.00	0.0000E+00
478004.00	3621547.00	0.0000E+00
478254.00	3621547.00	0.0000E+00
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478754.00	3621547.00	0.0000E+00
479004.00	3621547.00	0.0000E+00
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476754.00	3622297.00	0.0000E+00
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477504.00	3622297.00	0.0000E+00
477754.00	3622297.00	0.0000E+00
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476754.00	3622547.00	0.0000E+00
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476754.00	3622797.00	0.0000E+00
477004.00	3622797.00	0.0000E+00
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477754.00	3622797.00	0.0000E+00
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478254.00	3622797.00	0.0000E+00
478504.00	3622797.00	0.0000E+00
478754.00	3622797.00	0.0000E+00
479004.00	3622797.00	0.0000E+00
479254.00	3622797.00	0.0000E+00
479504.00	3622797.00	0.0000E+00
479754.00	3622797.00	0.0000E+00

Summary of Maximum 1-Hour Average Concentration and Deposition for SD Firework								
Fuel Type	Pyrotechnique							
Pyrotechnique Projectile Release Configuration								
Location of Max Grid Receptor								
		UTMX (m)	485,004					
		UTMY (m)	3,618,547					
Location of Downtown Monitor								
		UTMX (m)	484,407					
		UTMY (m)	3,619,920					
		Max 1-hour Average Conc (ug/m ³)		Deposition (ug/m ²)		QA		
	Pollutant	Monitor	Grid	Monitor	Grid	Ratio: Conc	Fraction	Ratio: Fraction
	PM2.5	100.81	137.75	2,300	2,650		5.93E-03	
	PM10	1462.05	1997.70	33,358	38,433	14.502	8.60E-02	14.503
	Pb	0.1749	0.2383			0.002	1.00E-05	0.002
	Cu	79.49	108.34			0.789	4.60E-03	0.776
	Cr+6	0.1207	0.1649			0.001	7.10E-06	0.001
	CO	0.0235	0.0301				1.40E-04	
	SO2	4.9566	6.3452			210.714	2.95E-02	210.714
	NO2	0.0183	0.0234			0.779	1.09E-04	0.779
	NMHC	0.0084	0.0108			0.357	5.00E-05	0.357
	CO2	62.1676	79.5840			2642.854	3.70E-01	2642.857
	FORM	0.0014	0.0018			0.061	8.60E-06	0.061
	ACETL	0.0072	0.0092			0.307	4.30E-05	0.307
	Acrolein	0.0014	0.0018			0.061	8.60E-06	0.061
PM2.5 1-Hour Average Conc for the Four Grid Receptors surrounding the Monitor Location								
	UTMX	UTMY	PM2.5 1-hr Conc					
	(m)	(m)	(ug/m3)					
	484,254	3,619,797	27.25					
	484,254	3,620,047	63.63					
	484,504	3,619,797	54.41					
	484,504	3,620,047	44.37					

Summary of Maximum 1-Hour Average Concentration and Deposition for SD Firework

Fuel Type *Propellant, ammonium perc., alum.*
Lift Charge Projectile Release

Location of Max Grid Receptor

UTMX (m) 485,004
 UTMY (m) 3,618,547

Location of Downtown Monitor

UTMX (m) 484,407
 UTMY (m) 3,619,920

Pollutant	Max 1-hour Average Conc (ug/m ³)		Deposition (ug/m ²)		Fraction	Ratio: Fraction
	Monitor	Grid	Monitor	Grid		
PM2.5	30.65	44.62	336.29	772.79	2.22E-03	
PM10	44.46	64.72	487.77	1120.89	3.22E-03	1.450
Pb	0.5522	0.8040			4.00E-05	0.018
Cu						
Cr+6	0.1381	0.2010			1.00E-05	0.005
CO	0.0164	0.0267			1.40E-04	
SO2	3.4562	5.6174			2.95E-02	210.714
NO2	0.0128	0.0208			1.09E-04	0.779
NMHC	0.0059	0.0095			5.00E-05	0.357
CO2	43.3487	70.4559			3.70E-01	2642.857
FORM	0.0096	0.0156			8.20E-05	0.586
ACETL	0.0246	0.0400			2.10E-04	1.500
Acrolein	0.0014	0.0023			1.20E-05	0.086

PM2.5 1-Hour Average Conc for the Four Grid Receptors surrounding the Monitor Location

UTMX (m)	UTMY (m)	PM2.5 1-hr Conc (ug/m ³)
484,254	3,619,797	5.40
484,254	3,620,047	18.43
484,504	3,619,797	12.87
484,504	3,620,047	9.84

Summary of Maximum 1-Hour Average Concentration and Deposition for SD Firework

Fuel Type **Biomass**
Biomass Release with the Projectile Release

Location of Max Grid Receptor

UTMX (m) 485,004
 UTMY (m) 3,618,547

Location of Downtown Monitor

UTMX (m) 484,407
 UTMY (m) 3,619,920

Pollutant	Max 1-hour Average Conc (ug/m ³)		Deposition (ug/m ²)		Fraction	Ratio: Fraction
	Monitor	Grid	Monitor	Grid		
PM2.5	56.44	77.12	1,288	1,484	6.64E-03	
PM10	113.05	154.47	2,579	2,972	1.33E-02	2.003

PM2.5 1-Hour Average Conc for the Four Grid Receptors surrounding the Monitor Location

UTMX (m)	UTMY (m)	PM2.5 1-hr Conc (ug/m ³)
484,254	3,619,797	15.26
484,254	3,620,047	35.63
484,504	3,619,797	30.46
484,504	3,620,047	24.84

FUEL DATA

Biomass	1000	1	2	
PM25	90.7	2.05	0	6.64E-03
PM10	90.7	2.05	0	1.33E-02
Pyrotechnique	1000	1	24	
Acetylene	26	0.6181	0	1.00E-05
Acetaldehyde	44.1	0.79	0	4.30E-05
Acrolein	56.1	0.839	0	8.60E-06
Aluminum	27	2.702	0	1.10E-02
Barium	137.3	3.51	0	1.00E-05
Cl2	70.9	3.214	0	4.60E-03
CO	28	0.0013	0	1.40E-04
CO2	44	0.002	0	3.70E-01
Copper	63.6	8.96	0	4.60E-03
Formaldehyde	30	1.09	0	8.60E-06
HCL	36.5	1.187	0	2.10E-01
Hexavalent Chromium	51.9	2.7	0	7.10E-06
Lead	207.2	11.3437	0	1.00E-05
Naphthalene	128.2	1.0253	0	7.90E-05
Nitrogen Oxide	30	0.0013	0	1.49E-03
Nitrogen Dioxide	46	1.4494	9360	1.09E-04
PM25	90.7	2.05	0	5.93E-03
PM10	90.7	2.05	0	8.60E-02
Sulfur Dioxide	64.1	0.0029	0	2.95E-02
Total Alkenes (Olefins) (e.g. Ethyle	62	0.978	0	2.00E-05
Total Non-methane Hydrocarbons	0	0	0	5.00E-05
Total Unidentified Hydrocarbons	0	0	0	2.50E-05
Zinc	65.4	7.14	0	4.00E-05
i-Butene	56.1	0	0	1.00E-05
Propellant, ammonium perc., alum.	1000	1	23	
Acetylene	26	0.6181	0	1.00E-05
Acetaldehyde	44.1	0.79	0	2.10E-04
Acrolein	56.1	0.839	0	1.20E-05
Aluminum	27	2.702	0	1.10E-02
Barium	137.3	3.51	0	1.00E-05
Cl2	70.9	3.214	0	4.60E-03
CO	28	0.0013	0	1.40E-04
CO2	44	0.002	0	3.70E-01
Chromium	52	7.2	0	1.00E-05
Formaldehyde	30	1.09	0	8.20E-05
HCL	36.5	1.187	0	2.10E-01
Lead	207.2	11.3437	0	4.00E-05
Naphthalene	128.2	1.0253	0	9.40E-05
Nitrogen Oxide	30	0.0013	0	1.49E-03
Nitrogen Dioxide	46	1.4494	9360	1.09E-04
PM25	90	2.05	0	2.22E-03
PM10	90	2.05	0	3.22E-03
Sulfur Dioxide	64.1	0.0029	0	2.95E-02
Total Alkenes (Olefins) (e.g. Ethyle	62	0.978	0	2.00E-05
Total Non-methane Hydrocarbons	0	0	0	5.00E-05
Total Unidentified Hydrocarbons	0	0	0	2.50E-05
Zinc	65.4	7.14	0	4.00E-05

i-Butene

56.1

0

0

1.00E-05

OBOD MODEL OUTPUTS AVAILABLE UPON REQUEST

Carbon Monoxide Hotspot Sheet

fireworks CO

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
 JUNE 1989 VERSION
 PAGE 1

JOB: Fireworks CO
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT:

I. SITE VARIABLES

U= 0.5 M/S ZO= 100. CM ALT= 0. (M)
 BRG= WORST CASE VD= 0.0 CM/S
 CLAS= 7 (G) VS= 0.0 CM/S
 MIXH= 5. M AMB= 0.0 PPM
 SIGHT= 10. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. EB - Approac	* 1000	* 4	* 0	* 4	* AG	743	4.0	0.0	13.3
B. EB - Depart	* -4	* 1000	* -4	* 0	* AG	743	4.0	0.0	13.3
C. WB - Approac	* -4	* 0	* -4	* -1000	* AG	743	4.0	0.0	13.3
D. WB - Depart	* 4	* -1000	* 4	* 0	* AG	743	4.0	0.0	13.3
E. SB - Approac	* 4	* 0	* 4	* 1000	* AG	743	4.0	0.0	13.3

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. 1	* -18	* 14	* 0.0
2. 2	* 14	* 14	* 0.0
3. 3	* -18	* -4	* 0.0
4. 4	* 14	* -4	* 0.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* A	* B	* C	* D	* E
1. 1	* 176.	* 3.5	* 0.0	* 0.0	* 1.9	* 1.6	* 0.0
2. 2	* 184.	* 4.0	* 0.2	* 0.0	* 1.7	* 2.1	* 0.0
3. 3	* 88.	* 2.6	* 2.2	* 0.0	* 0.2	* 0.2	* 0.0
4. 4	* 356.	* 4.0	* 0.2	* 1.7	* 0.0	* 0.0	* 2.1

♀

Appendix F
Biological Technical Study

BIOLOGICAL TECHNICAL STUDY FOR:

**SAN DIEGO BAY AND IMPERIAL BEACH
OCEANFRONT FIREWORKS DISPLAY EVENTS PROJECT
SAN DIEGO, CA**

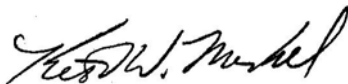
Prepared for:

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**October 2016
(revised February 2017)**



Keith Merkel, Principal Consultant



Holly Henderson, Senior Biologist

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**BIOLOGICAL TECHNICAL STUDY FOR:
SAN DIEGO BAY AND IMPERIAL BEACH
OCEANFRONT FIREWORKS DISPLAY EVENTS PROJECT
SAN DIEGO, CA
October 2016
(revised February 2017)**

1.0 INTRODUCTION

The San Diego Unified Port District (District) has requested preparation of an environmental evaluation under the California Environmental Quality Act (CEQA) for the continuation and expansion of fireworks display events within the San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District (Project). This report has been prepared to describe existing marine and terrestrial biological resources, including wetlands and sensitive species, within the Project area for purposes of evaluation of impacts pursuant to CEQA. This report makes use of existing data sources for San Diego Bay and the Imperial Beach Oceanfront. In addition, focused field investigations that address the potential impacts of fireworks displays on marine mammals were conducted as a part of this biological investigation (Appendix 1). Furthermore, prior observations of least tern response to fireworks shows in San Diego Bay were used as a reference source for assessment of potential effects of fireworks on this species. Finally, a literature review was completed with a focus on effects of fireworks on coastal areas outside of the San Diego region, and the effects of pyrotechnics and loud sounds, in general, on marine resources. These additional references have been included in this document to supplement existing data sources for the Project area.

The most prominent existing fireworks display events are the annual Fourth of July Big Bay Boom in the San Diego Bay and the Fourth of July Imperial Beach Fireworks Show. Furthermore, the Fireworks Show over Glorietta Bay is an existing display whose fireworks organizers may seek to obtain funding from the District in the future, which would require a discretionary action by the District. Existing fireworks display events that occur at other times throughout the year include those associated with the San Diego Symphony's Summer Pops concert series (multiple small displays) and the Our Lady of Rosary Church annual procession, along with the U.S.S. Midway Aircraft Carrier Museum (multiple small displays) and General Dynamics National Steel and Shipbuilding Company (NASSCO) displays. Four proposed new fireworks display events, which would be located adjacent to the bayfront in National City and Chula Vista, are anticipated to require a future discretionary action by the District, as discussed further below.

2.0 PROJECT DESCRIPTION

2.1 PROJECT OPERATIONS

The District Code section that would be established by the proposed ordinance would govern existing and proposed new fireworks display events requiring a discretionary action by the District or operated by the District's tenants. A number of existing fireworks display events occur year-round in and around San Diego Bay and the Pacific Ocean near Imperial Beach. A list of existing

fireworks display events that currently require a discretionary action by the District or are operated by the District's tenants, and a description of their existing operational characteristics, is provided in Tables 1 and 2 respectively. These existing fireworks display events would be subject to the District Code section established by the proposed ordinance. Figure 1 illustrates the project area, within San Diego Bay and the Imperial Beach Oceanfront, and identifies the District's CDP jurisdiction in its five member cities, including San Diego, Coronado, National City, Chula Vista, and Imperial Beach. This figure also illustrates anticipated launch sites for existing fireworks display events associated with the proposed project.

In addition to the existing fireworks display events, the District Code section would govern four new fireworks display events that are anticipated to require a future discretionary action by the District, including three displays along the Chula Vista Bayfront, allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July display along the National City Bayfront. The three proposed fireworks display events along the Chula Vista Bayfront include one Fourth of July display and two non-Fourth of July displays. It is anticipated that the District would consider annually whether or not to provide event sponsorship and/or issue a Special Event Permit, Right-of-Entry Permit, Tideland Use and Occupancy Permit, Coastal Development Permit, Coastal Act Categorical Determination of Exclusion, or other similar approval for these fireworks display events. These fireworks display events are anticipated to last approximately 3 to 20 minutes, and the fireworks are anticipated to be launched from piers or barges. These proposed new fireworks display events would also be subject to the District Code section established by the proposed ordinance. The proposed new fireworks display events associated with the proposed project are identified in Table 3, and the anticipated launch site for these events is indicated in Figure 1.

Table 4 summarizes the total pounds of fireworks estimated for each proposed new fireworks display event. The total pounds of fireworks for existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants is based on a review of the Regional Water Quality Control Board's (RWQCB's) general permits for these events and data collected from the fireworks organizers, fireworks operators, and/or District tenants. Because no existing fireworks display events have occurred along the Chula Vista Bayfront or National City Bayfront, the total pounds of fireworks used to produce these displays is not yet known. However, for the purposes of this EIR, the total pounds of fireworks for the Chula Vista Bayfront and National City Bayfront Fourth of July fireworks display events is anticipated to be 456 pounds for each display, which is similar to the Fourth of July Imperial Beach Fireworks Show. For the proposed non-Fourth of July fireworks display events along the Chula Vista Bayfront, the total pounds of fireworks was estimated by scaling the duration of the Fourth of July Imperial Beach Fireworks Show (20-minute event) by the number of minutes for each proposed fireworks display event (assumed to be 3- to 10-minute events, similar to displays operated by the San Diego Symphony during the Summer Pops concert series and U.S.S. Midway Museum), which equals an estimated 114 pounds for each display. Because the proposed District Code section would require consistency with the features and characteristics of each individual fireworks display event, including, but not limited to, the total pounds of fireworks for individual displays, the values provided in Table 4 represent the maximum allowable pounds of fireworks for the proposed new displays along the Chula Vista Bayfront and National City Bayfront. Similarly, because the proposed ordinance would also govern the continuation of existing fireworks display events that require a discretionary action

Table 1. Existing Fireworks Display Events Requiring a Discretionary Action by the District or Operated by the District’s Tenants

Time of Year	Approximate Number of Fireworks Display Events	Fireworks Display Event	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event (minutes)	Approximate Shell Size (inches)
January–March	7	U.S.S. Midway (7)	North Embarcadero ¹	4-10	2-6 inch
April–June	8	Symphony Summer Pops (1) NASSCO (1) U.S.S. Midway (6)	North Embarcadero ¹ South Embarcadero ² NASSCO	8–10	2–6-inch
July–September	29	Symphony Summer Pops (19) Big Bay Boom (1) Fourth of July Imperial Beach (1) Fireworks Show Over Glorietta Bay (1) U.S.S. Midway (6) NASSCO (1)	Shelter Island ³ Harbor Island ³ North Embarcadero ^{1,3} Central Embarcadero ³ South Embarcadero ² Glorietta Bay ⁴ NASSCO Imperial Beach Oceanfront ⁴	15–20 (Fourth of July) and 3–10 (other non-Fourth of July displays)	3–10-inch (larger displays [e.g., Fourth of July]) 2–6-inch (other non-Fourth of July displays)
October–December	5	U.S.S. Midway (4) Our Lady of Rosary Church (1)	North Embarcadero ^{1,5}	3-10 (Intermittently during the 80-minute procession for Our Lady of Rosary Church)	2.5-6 inch
TOTAL	49				

Notes:

¹U.S.S. Midway Museum (includes a total of 23 annual fireworks display events)

²Symphony Summer Pops Concert Display (includes a total of 20 annual fireworks display events)

³Big Bay Boom, Fourth of July

⁴Fourth of July Display

⁵Our Lady of Rosary Church Annual Procession

IB=Imperial Beach, GB=Glorietta Bay, BBB=Big Bay Boom

Table 2. Summary of Activity Associated with the Existing Fireworks Display Events

Fireworks Display Event	Day of Event	# of events (2015)	Pounds of Fireworks per Event	Pounds of Fireworks Annually	No. of barges used per event
Big Bay Boom	Fourth of July	1	5,342	5,342	4
Fireworks Over Glorietta Bay Show	Fourth of July	1	397	397	1
Fourth of July Imperial Beach Fireworks Show	Fourth of July	1	456	456	0
Symphony Summer Pops Concert Display	non-Fourth	20	varies between 52.6 to 95 ¹	1,498 ¹	1
Our Lady of Rosary Church Annual Procession	non-Fourth of July	1	17.25	17.25	0
U.S.S. Midway Museum	non-Fourth of July	23	varies between 7.8 and 234.9	1,759	1 ²
General Dynamics NASSCO Ship Repair Facility	non-Fourth of July	2	157.5 and 281.6	439	0 ³

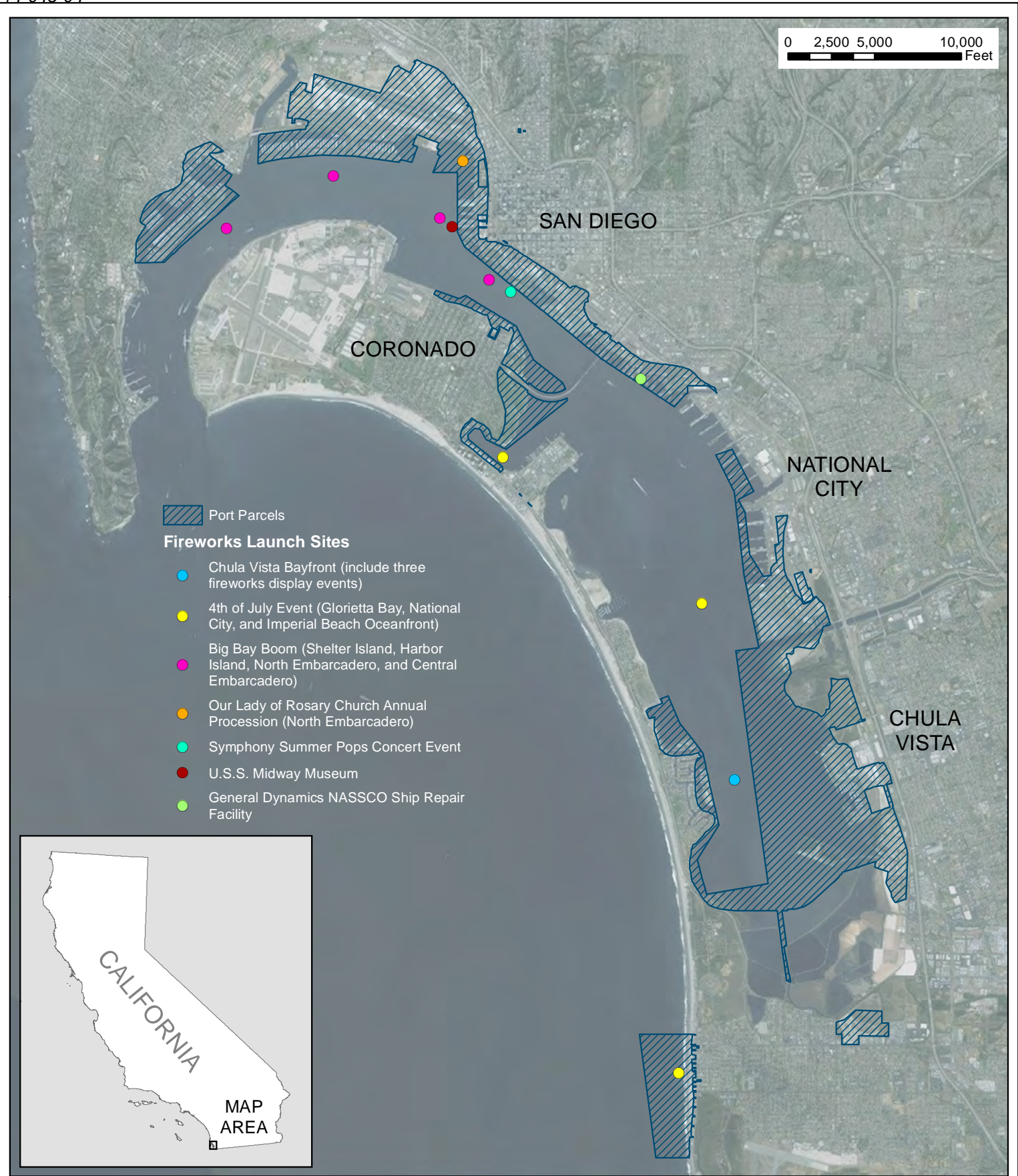
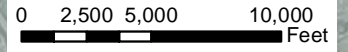
Notes:

¹ Pounds of fireworks for the Symphony Summer Pops events for year 2015 was obtained from the fireworks organizer. The largest shows (95.0 pounds per show) were three shows during Labor Day weekend. The remaining 17 shows throughout the year are smaller (between 52.6 and 78.8 pounds per show), and all shows average 74.9 pounds per show (74.9 x 20 = 1,498).

² Fireworks for displays on the U.S.S. Midway Museum are detonated either off of a barge in the San Diego Bay or off the end of flight deck of the Midway.








³ Fireworks for these displays are launched from the end of Pier 12.

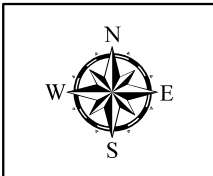
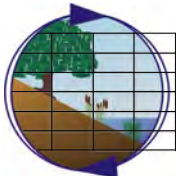
Source: RWQCB 2015, District 2016.



 Port Parcels

Fireworks Launch Sites

-  Chula Vista Bayfront (include three fireworks display events)
-  4th of July Event (Glorietta Bay, National City, and Imperial Beach Oceanfront)
-  Big Bay Boom (Shelter Island, Harbor Island, North Embarcadero, and Central Embarcadero)
-  Our Lady of Rosary Church Annual Procession (North Embarcadero)
-  Symphony Summer Pops Concert Event
-  U.S.S. Midway Museum
-  General Dynamics NASSCO Ship Repair Facility



San Diego Bay Vicinity Map and Launch Sites
 Biological Technical Study
 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Figure 1

Table 3. Proposed New Fireworks Display Events Requiring a Future Discretionary Action by the District

Time of Year	Approximate Number of Fireworks Display Events	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event	Approximate Shell Size
January–March	1	• Chula Vista ¹	3–10 minutes	2–8 inches
April–June	—	• —	—	—
July–September	2	• Chula Vista ² • National City ²	15–20 minutes	3–8 inches
October–December	1	• Chula Vista ¹	3–10 minutes	2–8 inches
TOTAL	4⁽³⁾			

Notes:

¹Non-Fourth of July display (smaller display)

²Fourth of July display

³Total includes three fireworks display events along the Chula Vista Bayfront, as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan.

Table 4. Summary of Activity Associated with the Proposed Fireworks Display Events

Fireworks Display Event	Day of Event	Number of Events	Pounds of Fireworks per Event	Pounds of Fireworks Annually	Number of Barges Used per Event
Chula Vista Bayfront ¹	Fourth of July plus two other shows	3	456 ¹ 114 ²	684	1
National City Bayfront ¹	Fourth of July	1	456 ¹	456	1

Source: District 2016.

¹ The total pounds of fireworks display events in the Chula Vista Bayfront and National City Bayfront areas on the Fourth of July is anticipated to be 456 pounds, similar to the Fourth of July Imperial Beach Fireworks Show.

² The total pounds of non-Fourth of July fireworks events estimated by scaling the Fourth of July Imperial Beach Fireworks Show (20-minute event) by the number of minutes for each fireworks display event (assumed to be 5-minute events), which equals an estimated 114 pounds each.

by the District or are operated by the District's tenants, the values provided in Table 2 also represent the maximum allowable pounds of fireworks for each existing fireworks display. If, in the future, an existing fireworks display event is modified or a new fireworks display event is proposed that is different from the type of event analyzed here, the fireworks display event will be subject to additional environmental review, pursuant to State CEQA Guidelines Section 15168(c).

Both existing and proposed new fireworks display events involve coordination between several agencies, organizations, and businesses, as detailed below. The definitions below pertain to terminology used in the description of fireworks display events in the following paragraphs:

- *Sponsor* generally refers to an individual, agency, committee, or other organization that contributes funds, services, or other similar goods to a *fireworks organizer* in support of a fireworks display event. The District has historically been a *sponsor* of several of the fireworks display events described below.
- *Fireworks organizer* generally refers to the individual, tenant, committee, organization, or agency proposing to conduct a fireworks display event. The *fireworks organizer* is typically responsible for obtaining all required funding, entitlements, and approvals for a fireworks display event, as well as contracting with a *fireworks operator* to produce the fireworks display event. Historically, the District has entered into agreements with *fireworks organizers* in order to *sponsor* several of the fireworks display events described below.
- *Fireworks operator* generally refers to the licensed fireworks company producing a fireworks display event. A *fireworks operator* is typically responsible for supplying, setting up, and detonating the pyrotechnic devices associated with a fireworks display event. The *fireworks operator* is also typically under contract with the *fireworks organizer* to produce the fireworks display event. Historically, the District has not had a direct relationship with the *fireworks operator*.

All existing and proposed new fireworks display events that either require a discretionary action by the District or are operated by the District's tenants would be subject to all applicable federal, state, and local laws and regulations governing fireworks as well as any additional requirements set forth in the proposed District Code section.

3.0 DESCRIPTION OF PYROTECHNIC DEVICES

Fireworks are a class of low-explosive pyrotechnic devices used for aesthetic or entertainment purposes. Fireworks devices take many forms to produce four primary effects: noise, light, smoke, and floating materials (e.g., confetti). Fireworks may be designed to burn with flames and sparks of various colors, including red, orange, yellow, green, blue, purple, and silver. Professional pyrotechnic devices used in fireworks display events can be grouped into three general categories: (1) aerial shells (i.e., paper and cardboard spheres or cylinders filled with pyrotechnic materials), (2) low-level comet and multi-shot devices, such as roman candles, and (3) set piece displays mounted on the ground.

3.1 AERIAL FIREWORKS/SHELLS

Aerial fireworks typically either provide their own propulsion (e.g., a skyrocket using a solid rocket motor) or are launched into the air in an aerial shell by a mortar using a black powder lifting charge or propellant. Most of the incendiary elements and shell casings burn up in the atmosphere; however, portions of the casings and some internal structural components and chemical residue fall back to the ground and/or receiving water bodies. The aerial shell typically consists of a cylinder or spherical cartridge, usually constructed of paper, plastic, or cardboard, and may include some plastic or paper internal components used to compartmentalize chemicals within the shell. The shell casing contains a burst charge, pyrotechnic material that emits prescribed colors when detonated, a fuse, and a black powder lift charge.

Aerial shells are often combined so as to make a great variety of sparkling shapes, often variously colored, when detonated. Colors in fireworks are usually generated by pyrotechnic stars (usually just called *stars*), which produce intense light when ignited. Stars contain five basic types of ingredients:

- A fuel, which allows the star to burn
- An oxidizer, which usually produces oxygen to support combustion of the fuel
- Color-producing chemicals
- A binder, which holds the pellet together
- A chlorine donor, which intensifies the color of the flame (sometimes the oxidizer can serve this purpose)

Attached to the bottom of an aerial shell is a lift charge of black powder. The lift charge and shell are placed at the bottom of a mortar buried in earth/sand or affixed to a wooden rack. When a fuse attached to the lift charge is ignited with an electric charge or heat source, the lift charge explodes and propels the shell through the mortar tube and into the air to a height determined by the amount of powder in the lift charge and the weight of the shell. As the shell travels skyward, a time-delayed secondary fuse eventually ignites the burst charge within the shell at peak altitude. The burst charge detonates, igniting and scattering the stars, which may, in turn, have small secondary explosions. Shells can be launched one at a time or in a barrage of simultaneous or quick-succession launches and are typically designed to detonate between 200 and 1,000 feet in the air.

As identified in Tables 1 and 3, aerial shells range in diameter from less than 2 inches to 10 inches for existing and proposed new fireworks display events within San Diego Bay and the Imperial Beach Oceanfront. The weight, height of the burst, burst radius, and burst delay of a firework is dependent upon the size of the shells (i.e., diameter of the shell). As the shell size increases, these characteristics also increase (Poulton and Konsake 1995).

3.2 LOW LEVEL FIREWORKS DEVICES

Low-level fireworks devices consist of stars packed linearly within a tube. When ignited, the stars exit the tube in succession, producing a fountain effect of single- or multi-colored light as the stars

incinerate through the course of their flight. Typically, the stars burn rather than explode, thus producing a ball or trail of sparkling light to a prescribed altitude, where they simply extinguish. Sometimes they terminate with a small explosion similar to a firecracker. Other low-level devices emit a projected hail of colored sparks or perform erratic, low-level flight while emitting a high-pitched whistle. Some emit a pulsing light pattern or crackling or popping sound effects. In general, low-level launch devices and encasements remain on the ground or attached to a fixed structure and can be removed upon completion of the fireworks display event. Common low-level devices are multi-shot devices, mines, comets, meteors, candles, strobe pots, and gerbs. They are designed to produce effects between 0 and 200 feet in the air.

3.3 SET PIECE/GROUND-LEVEL FIREWORKS

Set piece or ground-level fireworks are primarily static in nature and remain close to the ground. They are usually attached to a framework crafted in the design of a logo or familiar shape, illuminated by pyrotechnic devices such as flares, sparklers, and strobes. These fireworks typically employ bright flares and sparkling effects and may also emit limited sound effects such as cracking, popping, or whistling. Set pieces usually are used in concert with low-level effects or an aerial show and sometimes act as a centerpiece for the fireworks display event. They may have some moving parts, but typically do not launch devices into the air. Set piece displays typically are designed to produce effects between 0 and 50 feet in the air.

3.4 FIREWORK CHEMICAL CONSTITUENTS

Typical fireworks constituents include, but are not limited to, aluminum, antimony, barium, carbon, calcium, chlorine, cesium, copper, iron, potassium, lithium, magnesium, oxidizers (including nitrates, chlorates, and perchlorates), phosphorus, sodium sulfur, strontium, titanium, and zinc. The chemical constituents burn at high temperatures when a firework is detonated, which promotes incineration. The chemical constituents within the fireworks are scattered by the burst charge, which separates them from the fireworks casing and internal shell components. Combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris, including paper, cardboard, cotton, metal, wires, fuses, and other similar components. A list of chemicals typically used in fireworks for fuels, oxidizers, binding agents, coloration effects, and sound effects is provided in Table 5, below. Based on literature review, the total net weight of non-chemical pyrotechnic materials (i.e., debris) in a firework shell is typically approximately one-half their gross weight (Poulton and Konsake 1995).

Table 5. Fireworks Chemical Constituents

Symbol	Name	Purpose in Fireworks Usage
Al	Aluminum	Aluminum is used to produce silver and white flames and sparks. It is a common component of sparklers.
Ba	Barium	Barium is used to create green colors. It can also help stabilize other volatile elements.
C	Carbon	Carbon is one of the main components of black powder, which is used as a propellant. Carbon provides the fuel for a firework. Common forms include carbon black, sugar, or starch.
Ca	Calcium	Calcium is used to deepen colors. Calcium salts produce orange fireworks.
Cl	Chlorine	Chlorine is an important component of many oxidizers. Several of the metal salts that produce colors contain chlorine.
Cs	Cesium	Cesium compounds produce indigo color.
Cu	Copper	Copper compounds produce blue colors.
Fe	Iron	Iron is used to produce sparks. The heat of the metal determines the color of the sparks.
K	Potassium	Potassium compounds help to oxidize fireworks mixtures. Potassium nitrate, potassium chlorate, and potassium perchlorate are all-important oxidizers. The potassium content can impart a violet color to the sparks.
Li	Lithium	Lithium is a metal used to impart a red color. Lithium carbonate, in particular, is a common colorant.
Mg	Magnesium	Magnesium burns a very bright white, so it is used to add white sparks or improve the overall brilliance of a firework.
Na	Sodium	Sodium imparts a gold or yellow color; however, the color is often so bright that it frequently masks less intense colors.
O	Oxygen	Fireworks include oxidizers, which produce oxygen to promote burning. Oxidizers usually are nitrates, chlorates, or perchlorates. Sometimes the same substance is used to provide oxygen and color.
P	Phosphorus	Phosphorus burns spontaneously in air and is also responsible for some glow-in-the-dark effects. It may be a component of a firework's fuel.
S	Sulfur	Sulfur is a component of black powder and, as such, it is found in a firework's propellant/fuel.
Sb	Antimony	Antimony is used to create glitter effects.
Sr	Strontium	Strontium salts impart a red color. Strontium compounds are also important for stabilizing fireworks mixtures.
Ti	Titanium	Titanium metal can be burned as powder or flakes to produce silver sparks.
Zn	Zinc	Zinc is a bluish-white metal that is used to create smoke effects for fireworks and other pyrotechnic devices.

Source: RWQCB 2011.

4.0 PROJECT REGULATORY REQUIREMENTS

The proposed project involves the continued occurrence of existing and occurrence of additional future fireworks displays in San Diego Bay and the Imperial Beach Oceanfront. As described in Section 2.0 above, fireworks associated with these display events are typically launched from piers and/or barges adjacent to and/or in the waters of San Diego Bay and the Pacific Ocean near Imperial Beach. For those displays involving the temporary placement of barges, the barges are moved to their locations and held in place by a tugboat. No mooring or anchoring of the barges is proposed.

4.1 FEDERAL REGULATIONS

Clean Water Act

The federal Water Pollution Control Act Amendments of 1972 (33 United States Code [USC] 1251–1376), as amended by the Water Quality Act of 1987, and better known as the CWA, is the major federal legislation governing water quality. The purpose of the federal CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Discharges into waters of the United States are regulated under CWA Section 404. Waters of the United States include: 1) all navigable waters (including all waters subject to the ebb and flow of the tide); 2) all interstate waters and wetlands; 3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, or natural ponds; 4) all impoundments of waters mentioned above; 5) all tributaries to waters mentioned above; 6) the territorial seas; and 7) all wetlands adjacent to waters mentioned above. Important applicable sections of the CWA are discussed below:

- Section 303 requires states to develop water quality standards for inland surface and ocean waters and submit to the U.S. Environmental Protection Agency (EPA) for approval. Under Section 303(d), the state is required to list waters that do not meet water quality standards and to develop action plans, called total maximum daily loads, to improve water quality.
- Section 304 provides for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by the respective RWQCB. A Section 401 permit from the SWRCB or RWQCB-SDR would be required for issuance of a permit by the USACE.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. The NPDES program is administered by the RWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401. A general NPDES permit (Order No. R9-2011-0022/NPDES No. CAG999002) has been issued by the RWQCB-SDR that covers fireworks shows within District CDP jurisdiction. All fireworks displays conducted in San Diego Bay are required to comply with this NPDES permit.

- Section 404 regulates the discharge of dredged or fill materials to waters of the U.S. and provides for issuance of permits by the USACE.

Rivers and Harbors Appropriation Act

The Rivers and Harbors Appropriation Act of 1899 (33 USC 403), commonly known as the Rivers and Harbors Act (R&HA), prohibits the construction of any bridge, dam, dike, or causeway over or in navigable waterways of the United States without congressional approval. Under R&HA Section 10, the USACE is authorized to permit structures in or over navigable waters. Building or modifying wharves, piers, jetties, and other structures in or over the waters of the San Diego coastline requires USACE approval through the Section 10 permit process. Static positioning of fireworks barges using a temporary mooring is not proposed.

Endangered Species Act

The ESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and NMFS. ESA Section 9 prohibits the taking of endangered wildlife, where taking is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). The term *harm* is defined as an “act which actually kills or injures wildlife,” including through “significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” The terms “harass” means an act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding or sheltering. (50 CFR 17.3.) For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land, as well as removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law. Under ESA Section 7, lead federal agencies are required to consult with the USFWS or NMFS if the lead agency determines that its actions, including permit approvals or funding, may adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS or NMFS may issue an incidental take statement allowing take of the species that is incidental to another authorized activity, provided the action will not jeopardize the continued existence of the species. In cases where the federal agency determines its action may affect, but would be unlikely to adversely affect, a federally listed species, the agency may choose to informally consult with the USFWS and/or NMFS. This informal consultation typically involves incorporating measures intended to ensure effects would not be adverse. Concurrence from the USFWS and/or NMFS concludes the informal process. Without such concurrence, the federal agency may formally consult to ensure full compliance with the ESA.

Marine Mammal Protection Act

The Marine Mammal Protection Act of 1972 (MMPA) prohibits, with certain exceptions, the take of marine mammals in United States waters and by United States citizens on the high seas and the importation of marine mammals and marine mammal products into the United States. Under the MMPA, “Take” is defined as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal” (16 U.S.C. 1362) and further defined by regulation (50 CFR 216.3) as “to

harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal”. NMFS administers the MMPA. Under the 1994 Amendments to the MMPA, harassment is statutorily defined as, any act of pursuit, torment, or annoyance which:

- **(Level A Harassment)** has the potential to injure a marine mammal or marine mammal stock in the wild; or,
- **(Level B Harassment)** has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits take of nearly all birds where members of the bird’s taxonomic family are considered to be migratory. This results in the inclusion of most species of birds afforded protection. Under the MBTA, take means only to kill, directly harm, or destroy individuals, eggs, or nests, or to otherwise cause failure of an ongoing nesting effort.

4.2 STATE REGULATIONS

California Coastal Act

The California Coastal Act (CCA) is intended to provide protection of the unique nature and public interest values of the state’s coastal fringe. The CCA is implemented by the District for the land and water within its jurisdiction, subject to oversight by California Coastal Commission (CCC). The CCA recognizes California ports and harbors as primary economic elements of the national maritime industry. Within the Port of San Diego, the District administers the CCA under an adopted Port Master Plan and updates to the Port Master Plan that require concurrence from the CCC. Land and waters outside of the District’s Port Master Plan are administered by the CCC or by local jurisdictions operating under adopted Local Coastal Programs that have been approved by the CCC.

California Endangered Species Act

The CESA authorizes the California Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (California Fish and Game Code [FGC] Sections 2050–2098). The CESA defines endangered species as those whose continued existence in California is jeopardized. State-listed threatened species are those not presently facing extinction, but that may become endangered in the foreseeable future. FGC Section 2080 prohibits the taking of state-listed plants and animals. Unlike the federal ESA, the CESA does not include harassment within its take definition and as such, has a statutorily higher threshold standard for take than does the federal ESA. The CDFW also designates fully protected or protected species as those that may not be taken or possessed without a permit from the California Fish and Game Commission and/or CDFW. Species designated as fully protected or protected may or may not be listed as endangered or threatened.

When a species is both state- and federally listed, an expedited request for consistency with the USFWS biological opinion may be issued through a request for Section 2080.1 consistency determination, if take authorization under the CESA is required.

California Fish and Game Code

The FGC is implemented by the California Fish and Game Commission, as authorized by Article IV, Section 20, of the Constitution of the State of California. FGC Sections 3503, 3503.5, 3505, 3800, and 3801.6 protect all native birds, birds of prey, and nongame birds, including their eggs and nests, that are not already listed as fully protected and that occur naturally within the state. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. As defined in the Fish and Game Code, take means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (Fish and Game Code Section 86). The CDFW is the state agency that manages native fish, wildlife, plant species, and natural communities for their ecological value and their benefits to people. The CDFW oversees the management of marine species through several programs, some in coordination with NMFS and other agencies. The California Eelgrass Mitigation Policy (SCEMP) is administered by the USFWS, NMFS, and CDFW. In addition, the CDFW jointly manages (with NMFS) the implementation of the *Caulerpa* Control Protocol (CCP), which calls for conducting a survey for *Caulerpa* before any bottom-disturbing activities.

4.3 LOCAL REGULATIONS

San Diego Regional Water Quality Control Board NPDES Permit

Under section 301(a) of the Clean Water Act, there is a prohibition of discharge of pollutants to waters of the United States except in compliance with an issued National Pollutant Discharge Elimination System (NPDES) permit. Fireworks residue constitutes a waste discharge and thus would be subject to NPDES regulation. The San Diego Regional Water Quality Control Board has issued Order No. R9-2011-0022/NPDES No. CAG999002 General NPDES Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States in the San Diego Region from Public Display of Fireworks (RWQCB 2011).

San Diego Unified Port District Port Master Plan

Through implementation of the Port Master Plan (PMP), the District maintains authority over tidelands and submerged lands conveyed in trust to the District by the California legislature. Any amendments to the PMP must be reviewed and certified by the CCC. Under the certified PMP, the District has the authority to issue Coastal Development Permits (CDPs) for projects within its jurisdiction.

San Diego Bay Integrated Natural Resources Management Plan

The District and U.S. Navy jointly implement the Integrated Natural Resources Management Plan (INRMP). This long-term collaborative strategy for managing the Bay's natural resources provides planning guidance for good stewardship of the natural resources within San Diego Bay. The INRMP

does not carry regulatory authority, but rather establishes a baywide plan for natural resource management that has been vetted by the regulatory agencies with land use authority over the Bay and a broad spectrum of stakeholders.

5.0 ENVIRONMENTAL SETTING

The description of the environmental setting of the project below is based on existing biological information for the Bay, including the San Diego Bay INRMP (U.S. Navy 2013), and general information drawn from surveys of the nearshore environment near the Imperial Beach Pier, particularly drawn from the 2011-2012 benthic habitat mapping for the U.S. Navy's Silver Strand Training Complex (SSTC) Boat Lanes (Merkel & Associates, Inc. 2011a, 2012), surveys performed offshore of the Imperial Beach Pier for nearshore beach nourishment (Merkel & Associates, Inc. 2011b), nearshore habitat mapping performed by SANDAG (Merkel & Associates 2004), studies completed for the Naval Base Coronado Naval Outlying Field Imperial Beach, California (Tierra Data 2011, Merkel & Associates, Inc. 2014c), and beach monitoring performed in association with the regional beach nourishment program (Merkel & Associates, Inc. 2014a). The environmental setting for the entire San Diego Bay and coastal Imperial Beach has been included to provide context for the following impact analysis. The impact analysis then focuses on the portions of the Bay (e.g. the south Bay) likely to be affected by the additional of new fireworks displays.

5.1 PROJECT AREA SETTING

San Diego Bay Setting

San Diego Bay is a nearly enclosed, naturally formed embayment (Figure 1). The Bay was formed from the alluvial floodplains of the Otay, Sweetwater, and San Diego Rivers, and was historically shallow. The re-direction and channelization of the San Diego River beginning in the 1940's along with multiple dredging and channel deepening projects have resulted in deep waters in the northern and central portion of the Bay (with deepest waters of 59 feet occurring at the mouth of the Bay), transitioning to shallow waters (less than 3 feet) at the south end of the Bay (U.S. Navy 2013). The INRMP divides the Bay into multiple depth categories including: deep (> -20 feet (ft) MLLW), moderately deep (-12 to -20 ft MLLW), shallow (-2.2 to -12 ft MLLW), and intertidal (-2.2 to +7.8 ft MLLW) (Figure 2). Currently, deep and moderately deep waters account for more than 50% of total Bay surface area (U.S. Navy 2013). In contrast, shallow subtidal habitat accounts for approximately 28% of Bay surface area, primarily in south San Diego Bay. Intertidal habitat currently accounts for only 7% of the Bay surface area.

The habitats of San Diego Bay are reflective of water depth and presence or absence of shoreline structures. More than 70% of the shoreline (45.4 miles out of a total 64.4 miles) of San Diego Bay is currently armored (U.S. Navy 2013). Armoring is primarily rock rip rap, but also includes vertical bulkhead walls, boat launch ramps, earthen dikes, and wharves. Additionally, there are over 130 acres of surface structures (piers, docks, etc.) within the Bay that currently shade intertidal and subtidal waters. The majority of the lands in the northern and central portion of the Bay are developed with a mix of commercial, recreational, and military use.

The largest unarmored areas occur in the southern portion of the Bay. As such, the majority of undeveloped habitat also occurs in the southern portion of the Bay. Habitats in the southern portion of the Bay include southern coastal salt marsh, intertidal sand and mudflats, salt flats, and southern coastal foredune (Figure 2). The dominant vegetated subtidal habitat in San Diego Bay is eelgrass (*Zostera marina*); the most recent baywide eelgrass survey, completed in 2014, found 1,996 acres of eelgrass (Merkel & Associates, Inc. 2014b). This accounts for approximately 10.5% of the Bay surface area, with a majority of the total occurring in the shallow waters of the southern portion of the Bay. Salt marshes currently cover approximately 800 acres of San Diego Bay, and with a majority of this habitat comprised of a network of marshes that form a non-contiguous patchwork in the south Bay (Figure 2). The marine habitats of San Diego Bay currently support several sensitive avian species, marine mammals, and reptiles. Habitats and sensitive species of San Diego Bay are described further in the following text.

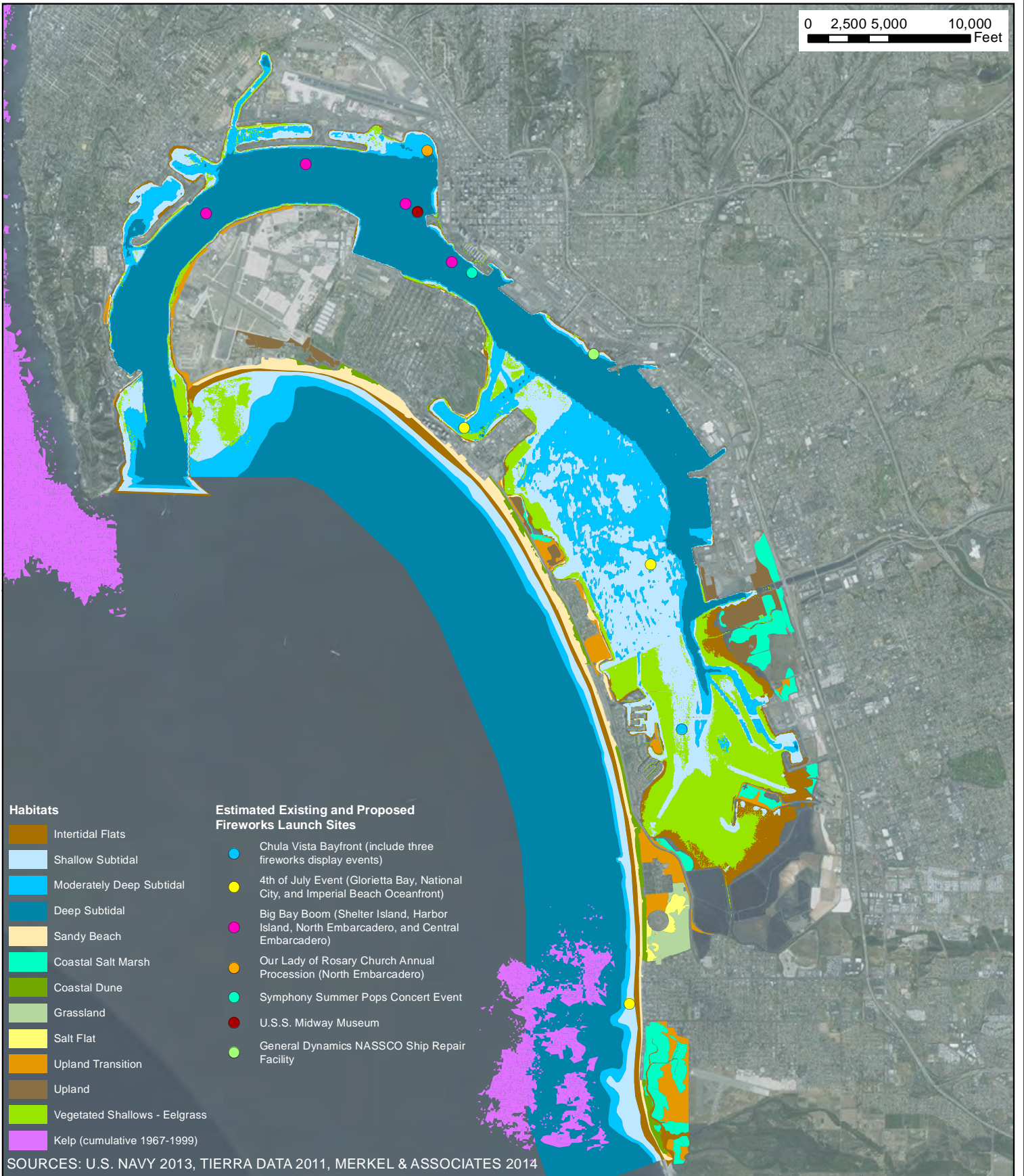
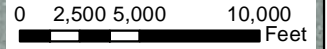
Coastal Imperial Beach Setting

The Imperial Beach setting is considered to be the beach and nearshore coastal waters adjacent to and in proximity to the end of the Imperial Beach Pier. Within this area, the open coastal shoreline consists of a sand beach from north to south (Merkel & Associates 2014b). Inland of shoreline approximately 0.6 miles to the north of the pier the uplands consist of ruderal, shrub and grassland uplands within the SSTC (Figure 2). Approximately 0.5 miles to the south of the pier end and inland from the shore is the northern Oneonta Slough portion of the Tijuana River Estuary. This portion of the estuary is located inland of a linear residential neighborhood along Seacoast Drive. The remaining environment away from the shoreline is urban developed lands. Finally, offshore of the pier is a coastal environment supporting non-persistent kelp beds, sand, and cobble bottom environments (Merkel & Associates, Inc. 2011b, 2004, SANDAG 2002).

5.2 HABITATS

Subtidal Unvegetated Soft Bottom

The INRMP differentiates between shallow and deep subtidal habitat based on the biological values of these habitats (U.S. Navy 2013). Deep and moderately deep habitats maintain similar biological functions, while shallow habitat has the potential to support greater primary productivity, and overall greater diversity of habitats and ecological communities. Within the Bay, unvegetated soft bottom habitat consists of soft muds and silt, often overlaying loose rubble along the edge of the hard shoreline revetments. Typical invertebrate species that inhabit these areas include burrowing bivalves (*Chione* spp., *Macoma nasuta*), the amphipod (*Grandidierella japonica*), bay ghost shrimp (*Neotrypaea* spp.), burrowing anemones (*Harenactis attenuata*), sabellid worms (Family Sabellidae), and tube-dwelling anemones. Other species typical of other non-vegetated areas of southern California bays and harbors include sponges (Phylum Porifera), nudibranchs and navanax (*Navanax inermis*), sea hare (*Aplysia californica*), and bivalves including the invasive, non-native Asian mussel (*Musculista senhousia*). Fish species typical of soft bottom habitat include round stingray (*Urobatis halleri*), yellowfin goby (*Acanthogobius flavimanus*) and additional goby species (Family Gobiidae), barred sand bass and spotted sand bass (*Paralabrax nebulifer* and *Paralabrax maculatofasciatus*), specklefin midshipman (*Porichthys myriaster*), diamond turbot (*Pleuronichthys guttulatus*), and Pacific staghorn sculpin (*Leptocottus armatus*).



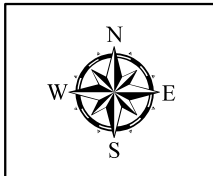
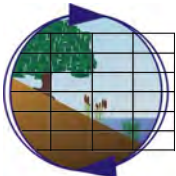
Habitats

- Intertidal Flats
- Shallow Subtidal
- Moderately Deep Subtidal
- Deep Subtidal
- Sandy Beach
- Coastal Salt Marsh
- Coastal Dune
- Grassland
- Salt Flat
- Upland Transition
- Upland
- Vegetated Shallows - Eelgrass
- Kelp (cumulative 1967-1999)

Estimated Existing and Proposed Fireworks Launch Sites

- Chula Vista Bayfront (include three fireworks display events)
- 4th of July Event (Glorietta Bay, National City, and Imperial Beach Oceanfront)
- Big Bay Boom (Shelter Island, Harbor Island, North Embarcadero, and Central Embarcadero)
- Our Lady of Rosary Church Annual Procession (North Embarcadero)
- Symphony Summer Pops Concert Event
- U.S.S. Midway Museum
- General Dynamics NASSCO Ship Repair Facility

SOURCES: U.S. NAVY 2013, TIERRA DATA 2011, MERKEL & ASSOCIATES 2014



Biological Habitats of San Diego Bay
 Biological Technical Study
 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Figure 2

The majority of the nearshore environment off the Imperial Beach Pier supports unvegetated soft bottom habitat of a principally sandy nature. Cobble beds occur near the pier and are intermittently sanded over, unvegetated, or support poorly developed kelp canopy as described below. In addition, the soft bottom habitat in this area supports chutes of shell hash and gravels.

Subtidal Vegetated Habitat

The vegetated, shallow subtidal habitat of San Diego Bay is dominated by eelgrass. Additionally, small amounts of widgeon grass (*Ruppia maritima*) occur in the warmer, shallow flats of south San Diego Bay. The baywide survey completed in 2014 indicated that 1,996 acres of eelgrass occur within the Bay (Merkel & Associates, Inc. 2014b). Vegetated subtidal habitats are an essential component of southern California's coastal marine environment. Eelgrass beds function as important habitat for a variety of invertebrate, fish, and avian species. For many species, eelgrass beds are an essential biological habitat component for at least a portion of their life cycle, providing resting and feeding sites along the Pacific Flyway for avian species, and nursery sites for numerous species of fish. Seagrass beds may be interspersed with red algae such as *Gracilaria verrucosa*, and green algae, such as *Ulva* spp. Typical fish species associated with seagrass include pipefish (*Syngnathus* spp.), kelpfish (Family Clinidae), surfperch (Family Embiotocidae) as well as schooling fish such as topsmelt (*Atherinops affinis*) and anchovy (*Anchoa* spp.).

Offshore of San Diego Bay, Pacific eelgrass (*Z. pacifica*) occurs near the entrance to San Diego Bay (Merkel & Associates 2014b). To the southern end of the project area of potential effect, kelp occurs intermittently on the cobble beds that are occasionally not sanded over and stable enough to support canopy kelp development. These beds are non-persistent and, over a 32 year period from 1967 to 1999, small fractions of the maximum extent of the beds had a maximum frequency of occurrence of only 19 percent of the survey years. The majority of the beds were represented less than 4 percent of the time (Merkel & Associates et al. 2004, SANDAG 2002).

Open Water

The water column represents the largest habitat of San Diego Bay and the nearshore coastal area. This habitat is dominated by schooling fish species including topsmelt (*Atherinops affinis*) northern anchovy (*Engraulis mordax*), and deepbody anchovy (*Anchoa compressa*). The occurrence of these species in open water is important to several species of piscivorous birds including pelicans, terns, loons, grebes, cormorants, and mergansers. These fish also provide an important forage base for numerous species of marine mammals.

Intertidal / Shallow Subtidal Rip Rap

As previously stated, an estimated 70% of the shoreline of San Diego Bay is armored, primarily with rock rip rap. The shoreline within the majority of the Bay is armored with rip rap to form a sloped revetment. Typical species observed along rip rap include native oyster (*Ostrea lurida*), non-native Pacific oyster (*Crassostrea gigas*), barnacles (*Balanus* spp.), mussels (*Mytilus* spp.), and tunicates such as *Styela plicata*. Tube-dwelling anemones (*Pachycerianthus* sp.), and tubed serpulid worms (Family Serpulidae) are also common. Crevices support spiny lobster (*Panulirus interruptus*). Rip rap supports a variety of algal species including *Egregia menziesii*, *Sargassum* spp. *Ulva* spp.

Ceramium spp., *Dictyota* spp., *Laurencia* spp. and *Enteromorpha* spp. (Davis et al. 2002). Fish species typically found along subtidal portions of rip rap are abundant and vary from the mouth of the Bay, which has more oceanic conditions, to protected marinas in the mid and southern portions of the Bay. Species include opaleye (*Girella nigricans*), senioritas (*Oxyjulus californica*), garibaldi (*Hypsypops rubicundus*), rockfish (*Sebastes* spp.), spotted sand bass, and giant kelpfish (*Heterostichus rostratus*). Other structure-associated fish species likely to occur along this habitat include salema (*Xenistius californiensis*), juvenile black croaker (*Cheilotrema saturnum*), sargo (*Anisotremus davidsonii*), barred sand bass and black surfperch (*Embiotoca jacksoni*) (U.S. Navy 2013).

Intertidal Flats

This habitat includes mudflats, sand flats, and salt flats that occur intertidally, typically along the unarmored shorelines of south San Diego Bay. Intertidal flats also occur in narrow bands along rip rap shorelines in quiescent coves and marinas of the Bay. This habitat provides an interface with open waters of the Bay, bringing tidal exchange to adjacent marshlands, and serving as outlets for storm water runoff, nutrients, and sediment supply to the Bay. Intertidal flats are dominated by invertebrates that inhabit the sediments, providing an ample low-tide foraging area for shorebirds. As tides rise the flats become forage habitat for fish, dabbling waterfowl, and for piscivorous birds. Common avian species along intertidal flats include sandpipers (*Calidris* spp.), willet (*Tringa semipalmata*), marbled godwit (*Limosa fedoa*), dowitchers (*Limnodromus* spp.) and plovers (Family Charadriidae), eared grebe (*Podiceps nigricollis*), scaup (*Aythya* spp.), and surf scoter (*Melanitta perspicillata*). Fish species that forage on tidal flats during high tides include mullet (*Mugil cephalus*), California halibut (*Paralichthys californicus*), bat ray (*Myliobatis californica*), and gray smoothhound (*Mustelus californicus*).

Sandy Beach

This habitat includes coastal and bay sand beach environments that are located along narrow fringes between subtidal and supratidal habitats within areas of higher wave energy. The sand beach is best developed along the Silver Strand and Imperial Beach shoreline. The beach environments are generally heavily utilized by the public in areas that are publically accessible and receive a much lower degree of use in areas that are found within non-recreational use Naval installations. Closed beach environments contain some southern coastal foredunes and are, in some instances, used as nesting and roosting environments for sensitive avian species and shorebirds.

Marshes

Coastal salt marsh habitat primarily occurs in south San Diego Bay and in the Tijuana Estuary as a series of noncontiguous remnants of once broader estuarine environments and restored wetlands. This fragmentation, along with channelization and re-direction of rivers and creeks that historically drained into marshlands, and the threat of sea level rise, puts the remaining marshes at risk of decline. Many of the marshes in south San Diego Bay occur along unarmored shorelines, the largest of which is the E Street and Sweetwater Marsh complex located south of the Sweetwater River Channel along the southeastern shoreline of the Bay within the San Diego Bay National Wildlife

Refuge. Other large marsh areas along unarmored shorelines include the D Street Fill, J Street Marsh, and Emory Cove. Finally, other marshes, including the Chula Vista Wildlife Reserve and within the South Bay Salt Ponds, have been restored and are currently protected from erosion by permeable dikes.

Marsh habitat provides important biological, water quality, and shoreline protection functions. Coastal salt marsh habitat is dominated by salt-tolerant vegetation including pickleweed (*Sarcocornia* and *Salicornia* spp.) and cordgrass (*Spartina foliosa*) that provides foraging habitat for numerous birds, and nesting habitat for several sensitive avian species, particularly the federal and state-listed light-footed Ridgway's rail (*Rallus obsoletus levipes*) and the state-listed Belding's Savannah sparrow (*Passerculus sandwichensis beldingi*).

Upland Transition and Upland Areas

As mentioned previously, the majority of shoreline within San Diego Bay is armored. However, upland transition areas, particularly along unarmored shorelines, provide important foraging, roosting, and nesting habitat for birds. Among the most important upland transition areas are supratidal sand dunes and beaches located adjacent to, and protected by, intertidal flats and marshes. These areas provide nesting habitat for additional sensitive avian species. Other transitional habitats adjacent to baylands include coastal scrub (maritime succulent scrub and sage scrub), created bay fills, and river mouths (where coastal salt marsh transitions to brackish, and riparian habitats). Ruderal lands supporting grasslands and saline flats are also present along the coastal strand environment. This is particularly true in the area of the Naval Outlying Field (NOLF) antenna array north of the Imperial Beach Pier.

5.3 WETLANDS AND SENSITIVE HABITATS

Wetlands, as defined by the USACE, are present as coastal salt marshes, the largest of which are located along the unarmored shorelines of south San Diego Bay. A small amount of freshwater and brackish marsh, as well as riparian scrub, occurs along the mouths of the creeks and rivers that enter San Diego Bay as well as the wetlands of the Tijuana Estuary. The largest of the San Diego Bay wetlands include the Sweetwater River, Otay River, Chula Vista Wildlife Reserve, South San Diego Bay National Wildlife Refuge, and Telegraph Creek. The brackish marsh and riparian scrub within the Bay and Imperial Beach Oceanfront are considered to have low functions and values based on a substantial alteration from historic conditions that has resulted from the channelization of river mouths into concrete lined channels, and the highly urban setting through which the rivers flow to the Bay. The larger coastal salt marsh habitats represent a combination of remnants of historic wetlands, and recently restored areas. This habitat is considered to have high biological, physical, and chemical functions and values. The marshes perform a high level of nutrient transformation, as rivers and creeks of the Bay drain into marsh vegetation. Coastal salt marshes within the Bay support complex biological communities and provide breeding habitat for several sensitive avian species.

Eelgrass is a rooted aquatic plant that inhabits shallow soft bottom habitats in quiet waters of bays and estuaries as well as sheltered coastal areas. It can form dense beds that provide substrate, food, and shelter for a variety of marine organisms. The majority of eelgrass beds in the Bay are

found in water less than 20 feet deep, with light availability being the primary limiting factor for distribution and growth. Eelgrass beds are considered “special aquatic sites” under the CWA. Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA), eelgrass is designated as Essential Fish Habitat (EFH) for various federally-managed fish species within the Pacific Coast Groundfish and Pacific Coast Salmon Fisheries Management Plans (FMP) (PFMC 2008). Eelgrass is also considered a habitat area of particular concern (HAPC) for various species within the Pacific Coast Groundfish FMP.

5.4 WILDLIFE CORRIDORS

The project area of potential effect within San Diego Bay and along the nearshore waters of Imperial Beach does not provide any terrestrial movement corridors, and no marine mammal, reptile, or fish migratory corridors occur within it. However, some marine fish species, such as anchovy, sardine, and topsmelt, likely move into and out of the Bay for spawning, nursery, and foraging. The southern portions of the Bay, including the South San Diego Bay Unit of the National Wildlife Refuge and South Bay Salt Ponds, provide stopover habitat for migrating waterfowl and shorebirds. San Diego Bay and the Imperial Beach shoreline, like all of California, is located within the Pacific Flyway.

Several whale species migrate along the coast of California, including the California gray whale (*Eschrichtius robustus*). The peak northward migration of male gray whales occurs in mid-March, followed two months later by the second migration wave, which is composed of cows and calves. Whales typically do not occur within the immediate nearshore coastal waters of Imperial Beach or the adjacent San Diego Bay environment.

5.5 SENSITIVE WILDLIFE

Species identified as protected, rare, sensitive, threatened or endangered by the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), or California Department of Fish and Wildlife (CDFW), that may be expected to be present in the San Diego Bay and Imperial Beach Oceanfront at various times include multiple species of marine mammals, birds, and marine reptiles. Sensitive species included in this analysis are described below and summarized in Table 6.

Table 6. Sensitive Species with Potential to Occur within the Project Area

Common Name	Scientific Name	Status	Occurrence in Project Area
Reptiles Green Sea Turtle	<i>Chelonia mydas</i>	FT	Low Potential
Birds Brant (wintering/staging)	<i>Branta bernicla</i>	CDFW SSC	High Potential - Winters in south Bay along Chula Vista Bayfront
California Brown Pelican (nesting and communal roosts)	<i>Pelecanus occidentalis californicus</i>	CDFW FP	Moderate Potential - No nesting, roosts on rip rap, docks, pilings, etc.
Double-crested Cormorant (nesting)	<i>Phalacrocorax auritus</i>	CDFW WL	High Potential - Nests in South Bay Salt Works
Northern harrier (nesting)	<i>Circus cyaneus</i>	CDFW SSC	Moderate Potential - Nests in marshes in south Bay
Osprey (nesting)	<i>Pandion haliaetus</i>	CDFW WL	High Potential - Nests at NAS North Island, and the Chula Vista Wildlife Reserve
American peregrine falcon (nesting)	<i>Falco peregrinus anatum</i>	CDFW FP, FWS BCC	Low Potential - May nest along bayfront
Light-footed Ridgway's rail	<i>Rallus obsoletus levipes</i>	FE, SE	High Potential - Nests in marshes of south Bay
Western snowy plover (nesting)	<i>Charadrius alexandrinus nivosus</i>	ST	High Potential - Nests on sand flats of Bay
California Least tern (nesting)*	<i>Sternula antillarum browni</i>	SE, FE	High Potential - Nests on sand flats of Bay
Caspian tern (nesting)	<i>Hydroprogne caspia</i>	FWS BCC	High Potential – Nests in South Bay Salt Works
Black skimmer (nesting)	<i>Rynchops niger</i>	CDFW SSC	High Potential – Nests in South Bay Salt Works
Elegant tern (nesting)	<i>Thalasseus elegans</i>	CDFW WL	High Potential – Nests in South Bay Salt Works
Belding's Savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	SE	High Potential - Nests in marshes of south Bay and Tijuana Estuary
Mammals Pacific harbor seal	<i>Phoca vitulina richardsi</i>	MMPA	Moderate Potential – Forage in north Bay and is uncommon in the Bay
California sea lion	<i>Zalophus californianus californianus</i>	MMPA	High Potential – Forage and loafs in the north Bay with uncommon occurrences in the south Bay
Coastal bottlenose dolphin	<i>Tursiops truncatus</i>	MMPA	Moderate Potential – Uncommon forager in deep channels of the north Bay
California gray whale	<i>Eschrichtius robustus</i>	MMPA	Very Low Potential – Regular migrant in offshore waters, but uncommon in Bay and nearshore waters

SE – State Endangered; FE- Federally Endangered; FT – Federally Threatened; CDFW SSC- CDFW Species of Special Concern; CDFW-FP - CDFW Fully Protected Species; CDFW-WL- CDFG Watch List; FWS-BCC – USFWS Bird of Conservation Concern; MMPA – species protected by the Marine Mammal Protection Act

*Least terns are a migratory species found in the area from approximately April 1 through September 1 of each year.

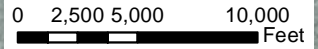
Marine Reptiles

South San Diego Bay supports a population of eastern Pacific green sea turtles (*Chelonia mydas*) of between 16 and 61 individuals that primarily remain in the warm waters of south San Diego Bay, though some are known to leave the bay to nest on the beaches of offshore islands of Mexico (Eguchi *et al.* 2010). Long-term acoustic tagging and GPS tracking studies by NMFS indicate that the population has historically congregated in the warm waters of the cooling water discharge channel at the now closed South Bay Power Plant in south San Diego Bay. The shutdown of the South Bay Power Plant has made movements of turtles harder to predict. Recent tracking studies have noted turtles utilizing areas of the Bay much farther north than their historically recognized foraging areas, but still primarily located south of the Sweetwater River Channel (San Diego Union Tribune 2013, Bredvick *et al.* 2015). Tracking data from 2016 indicates that green sea turtles in San Diego Bay spend 95% of their time south of the Sweetwater River Channel (SDUPD 2016). It is unlikely that green sea turtles extensively utilize the northern end of the Bay due to the cooler water temperatures relative to south San Diego Bay and a lack of eelgrass and a paucity of alternative forage such as the red algae, *Gracilaria sp.* Regardless, very rare occurrences of green sea turtles in north San Diego Bay cannot be ruled out given how little is known about turtle activities.

Birds

Four avian species listed by USFWS and/or CDFW as federally or state endangered or threatened have a high potential to occur within the San Diego Bay and Imperial Beach Oceanfront. These include California least tern (*Sternula antillarum browni*), western snowy plover (*Charadrius alexandrinus nivosus*), light-footed Ridgway's rail (*Rallus obsoletus levipes*), and Belding's Savannah sparrow (*Passerculus sandwichensis beldingi*).

The California least terns nests along the west coast of North America, from Baja California, Mexico, north to the San Francisco Bay area. California least terns are seasonal residents of San Diego Bay, typically arriving in mid- to late-April to nest at several colonies adjacent to San Diego Bay, and are generally present through August, with September 15 marking the end of the season. California least terns can have two waves of nesting during this time period. California least terns establish nesting colonies on sandy soils with little vegetation. Along the shores of the San Diego Bay and south of the Imperial Beach Oceanfront, California least terns nest at multiple sites (Figure 3), including the runway ovals at San Diego International Airport, the airfield tarmac at Naval Air Station North Island (NASNI), at Delta and Echo Beaches at Naval Amphibious Base Coronado (NAB Coronado, which are managed by the U.S. Navy), on the D Street Fill, at the Chula Vista Wildlife Reserve, along the South Bay Salt Works levees and in Pond 11 that are managed by the District and USFWS, and along the beach of the Tijuana River National Estuarine Research Reserve (TRNERR) south of the Imperial Beach Oceanfront. The most utilized nesting sites in 2015 were NAB Coronado (supporting between 707 and 779 nesting pairs), TRNERR (supporting between 144 and 199 nesting pairs), the D Street Fill/Sweetwater Marsh NWR (supporting between 105 and 120 nesting pairs), and the San Diego International Airport (supporting between 8 and 18 nesting pairs) (Frost 2016). California least terns actively forage for fish in the waters adjacent to nesting colonies in San Diego Bay; foraging also occurs in open ocean waters and along the nearshore waters adjacent to beaches of Silver Strand and Imperial Beach.



Estimated Existing and Proposed Fireworks Launch Sites

- Chula Vista Bayfront (include three fireworks display events)
- 4th of July Event (Glorietta Bay, National City, and Imperial Beach Oceanfront)
- Big Bay Boom (Shelter Island, Harbor Island, North Embarcadero, and Central Embarcadero)
- Our Lady of Rosary Church Annual Procession (North Embarcadero)
- Symphony Summer Pops Concert Event
- U.S.S. Midway Museum
- General Dynamics NASSCO Ship Repair Facility

Habitat Protection Areas

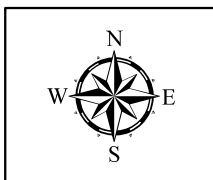
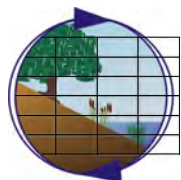
✕ Mammal Haul-out Areas

Sensitive Nesting Areas

- light-footed Ridgway's rail and Belding's Savannah sparrow
- western snowy plover and California least tern
- Sensitive Nesting Areas 1 mile

Sensitive Habitats

- Vegetated Shallows - Eelgrass
- Coastal Salt Marsh



Sensitive Habitats, Wetlands, and Sensitive Species within the Project Area

Biological Technical Study
San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Figure 3

The western snowy plover is a sparrow-sized, white and tan colored shorebird with dark patches on either side of the neck, behind the eyes, and on the forehead. The coastal western snowy plover population is defined as those individuals that nest adjacent to or near tidal waters and includes all nesting colonies on the mainland coast, peninsulas, offshore islands, adjacent bays, and estuaries. The breeding range of the coastal population of the western snowy plover extends along coastal beaches from the southern portion of Washington State to southern Baja California, Mexico. The recognized breeding season of the western snowy plover normally extends from March 1 through September 15. However, within San Diego Bay the USFWS reports that the core breeding season for plovers is March 1 through mid-July (S. Vissman USFWS, pers. comm.). Western snowy plover nest along similar sandy flats and dunes as California least tern. In San Diego Bay, nesting occurs along the beach at NAS North Island, at NAB Coronado, and further south along the Silver Strand Training Complex and the beaches of the TRNERR. This species has not nested at the D Street Fill/Sweetwater Marsh NWR since 2000. Increasing amounts of vegetation along the shoreline has likely discouraged nesting at this location (Patton 2013).

The light-footed Ridgway's rail is a resident in coastal wetlands in southern California and northern Baja, California, Mexico. The species is primarily threatened by loss and degradation of the freshwater, brackish, and salt marsh habitat in which it breeds. The largest population of this species occurs in the TRNERR. This location has typically supported greater than 100 breeding pairs, although estimates for the 2015 breeding season were 75 pairs (Zemba et al. 2014). Much smaller populations (less than five pairs) have been observed at other marsh locations in San Diego Bay including E, F&G, and J Street Marshes and the Sweetwater Marsh within the Chula Vista Bayfront region, and at the Otay River Mouth. The core breeding season for Ridgway's rails in San Diego Bay has been reported to be mid-February through mid-June and into July (S. Vissman USFWS, pers. comm.).

Belding's Savannah sparrow ranges along the southern California coast from Santa Barbara County (Goleta Slough) in the north into Baja California, Mexico (near El Rosario) in the south. The species is unique in that it is a year-round resident of salt marshes and is reliant upon this habitat to meet all of its life cycle requirements. The species is threatened by loss and degradation of the salt marsh habitat in which it live and breeds. In San Diego Bay, the largest population of Belding's Savannah sparrow is found at the TRNERR (318 territories surveyed in 2015), the Sweetwater Marsh NWR (222 territories surveyed in 2015), and the south San Diego Bay unit of the NWR (158 pairs at the South Bay Salt Works and Otay River) (Zemba et al. 2015). Smaller populations are located at Paradise Marsh, F&G Street Marsh and on the Chula Vista Wildlife Reserve.

Other sensitive avian species with high potential to occur in the project area of potential effect include California brown pelican (*Pelecanus occidentalis californicus*) and double crested cormorant (*Phalacrocorax auritus*), both of which are protected at nesting colonies and at communal roosting areas. California brown pelicans roost in small groups throughout the Bay, particularly along Zuniga jetty, rip rap shorelines, and docks and piers in the northern portion of the Bay. Double-crested cormorants nest within San Diego Bay at the South Bay Salt Works. They roost and forage throughout the Bay. Other sensitive avian species known to nest on the South Bay Salt Works levees include elegant tern (*Thalasseus elegans*), Caspian tern (*Hydroprogne caspia*), and black skimmer (*Rynchops niger*) (Unitt 2004), all of which are protected at nesting colonies. These species nest on the ground in similar unvegetated sandy habitat as the California least tern. Sensitive

raptors include osprey (*Pandion haliaetus*), northern harrier (*Circus cyaneus*), and American peregrine falcon (*Falco peregrinus anatum*), all of which are protected at nesting locations. Osprey is known to nest within San Diego Bay, with recent nests located at NAS North Island, the National City shoreline, and at the Chula Vista Wildlife Reserve. Northern harrier nests on the ground, within marshes and grasslands. This species has been known to nest in south San Diego Bay, within the TRNERR, and the Sweetwater Marsh NWR (Unitt 2004). Peregrine falcon has historically nested in Point Loma, on downtown San Diego buildings, and on the Coronado Bridge.

Marine Mammals

California sea lion (*Zalophus californianus californianus*) and, to a lesser extent, Pacific harbor seal (*Phoca vitulina richardsi*) are the two most common species of marine mammals that occur in San Diego Bay and adjacent coastal waters. Neither species breeds within San Diego Bay, but both spend time foraging and loafing in the waters of the Bay. California sea lions inhabit the entire western coast of North America from central Mexico through the Canadian coastline. The majority of the west coast population is located in the Southern California Bight since most sea lions breed at the Channel Islands (U.S. Navy 2013). California sea lions are highly sexually dimorphic. Males are larger, averaging 2.4 m and 390 kg, while females only reach 2.0 m and average 110 kg. Pronounced sagittal crests easily identify adult males. The coat color varies from sandy brown to dark brown. They feed on squid, and a variety of schooling fish. Sea lions are frequently observed loafing on buoys, and foraging around bait barges and fishing piers (U.S. Navy 2013). California sea lion are year round residents of San Diego Bay and are more common in the northern portion of the Bay. Individuals are rarely observed in the south bay region, due to lack of haul out areas and minimal fishing activity (e.g. fishing piers and bait barges).

Harbor seals range from Alaska to Baja California, with a majority of the population occurring in northern waters (U.S. Navy 2013). Harbor seals prefer to loaf and forage in protected inlets and embayments. They eat multiple fish species as well as invertebrates such as octopus. The nearest breeding colony for this species is north at the Children's Pool in La Jolla. While harbor seals will occasional haul out and loaf on intertidal rip rap, they prefer to haul out on protected sandy and rocky beaches, and no large haul out areas for this species occur in San Diego Bay. Harbor seals are less frequently encountered in the Bay and nearshore waters, but this is not to say they are rare in the area. They are generally less social in the water than sea lions and are naturally less obvious or abundant in their presence. Similar to California sea lions, harbor seals are rarely observed in south San Diego Bay.

California gray whales (*Eschrichtius robustus*) are seasonal migrants, traveling up and down the coastline in offshore waters. They are the object of most of the whale watching in the area. They pass through the area twice during their yearly migrations. The peak northward migration of male gray whales occurs in mid-March, followed two months later by the second migration wave, which is composed of cows and calves. These whales migrate from wintering grounds in Baja California, Mexico, northward to Alaska. The southbound migration occurs in late December and January, from their breeding grounds in the north back down to the south. The gray whale does not breed in San Diego Bay or the immediate vicinity, and individuals enter the waters of San Diego Bay only on rare occasions. Individuals that do enter the bay typically remain close to the entrance channel and do not travel to the southern portion of the Bay.

Coastal bottlenose dolphins (*Tursiops truncatus*) are distributed world-wide in tropical and warm-temperate waters, including California where separate coastal and offshore populations are known to exist (Caretta et al., 2014). California coastal bottlenose dolphins are found within about one kilometer of shore primarily from Point Conception south into Mexican waters. They are commonly observed travelling and foraging just outside of the surf zone along San Diego Beaches. Bottlenose dolphins are regularly observed in the northern portion of San Diego Bay, particularly in the northern channels (U.S. Navy 2013). This species tends to stay within these relatively deep channels where prey is most abundant. However, bottlenose dolphins are rare visitors to southern portions of San Diego Bay. Other dolphin species, including Pacific white sided dolphin (*Lagenorhynchus obliquidens*) and common dolphin (*Delphinus* sp.), have been observed in the waters of San Diego Bay; however, these species are considered rare visitors within the Bay (U.S. Navy 2013).

6.0 PROJECT IMPACTS ANALYSIS

6.1 CEQA THRESHOLDS OF SIGNIFICANCE

State CEQA Guidelines §15065 (a) (Title 14, Chapter 3, Article 5) states, “A project may have a significant effect on the environment” if:

- “The project has the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.”
- “The project has possible environmental effects which are individually limited but cumulatively considerable.”

In addition, the San Diego Unified Port District employs the Environmental Checklist in Appendix G of the CEQA Guidelines. The following questions are from the District’s Initial Study Checklist and provide guidance to determine potential significance to Biological Resources:

Would the proposed project:

1. *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*
- 2) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?*
- 3) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

- 4) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*
- 5) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*
- 6) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The following analysis identifies potential impacts to biological resources that could result from implementation of the proposed project. Resource Protection Measures for significant project impacts are recommended.

6.2 POTENTIAL DIRECT AND INDIRECT IMPACTS TO HABITATS AND WILDLIFE

The following impact analysis focuses on the potential effects of the four new fireworks displays (three along the Chula Vista Bayfront and one along the National City Bayfront). Impacts to habitats and wildlife can be measured as direct and/or indirect. Direct impacts are those that have a direct impact on habitats or wildlife and occur contemporaneously with the action. Direct impacts of fireworks to wildlife have been previously defined by the fireworks analysis for Monterey Bay National Marine Sanctuary (NMFS AND MBNMS 2002) report as immediate physical and physiological impacts such as abrupt changes in behavior, flight response, diving, evading, flushing, cessation of feeding, and physical impairment or mortality of wildlife. For the proposed project, direct impacts to wildlife and habitats can result from sound waves, light, and debris produced by the pyrotechnics display. These effects are felt at the time of or shortly after detonation of the pyrotechnics device. Debris produced by the proposed new fireworks display events also has a potential to result in direct effects on wildlife and habitats by littering and contaminating the surrounding environment. Finally, if chemical residue from detonated fireworks adversely impacts water quality and sediment, it may directly impact habitats and wildlife. The direct chemical effects of the proposed new fireworks display events are analyzed in a separate technical report; however, the effects of water quality on habitats and species are discussed below. The extent and direction of the direct impacts is dependent on the size and type of shell being used, wind direction, relative humidity, cloud cover, temperature and the topography of the surrounding landscape.

Indirect impacts are effects that are caused by or will result from the proposed action at a later time, but are still reasonably certain to occur. For the proposed project, indirect impacts to habitats and wildlife can result from increased boat traffic, increased foot traffic in or adjacent to sensitive areas and wetlands, and human-generated debris associated with the public viewing fireworks displays.

6.3 PROJECT CEQA IMPACTS AND SIGNIFICANCE

Direct and Indirect Impacts to Habitats and Wetlands

The primary direct impacts from the proposed new fireworks displays on habitat in San Diego Bay are increased trash from discharged shells (including paper and cardboard waste, as well as remains of fuses) as well as reduced water quality. Further, barges and tugboats that maneuver and hold

the barges into place could damage eelgrass. The primary indirect impacts to habitats and wetlands of the Bay could include increased boat traffic, increased foot traffic in sensitive areas, and human-generated debris. The following text discusses each potential impact in further detail.

Direct Impacts - Fireworks-generated Trash and Debris, Reduced Water Quality, and Eelgrass Damage

Fireworks-generated Trash and Debris

Fireworks displays can result in a substantial amount of paper, cardboard, and some cotton, metal and plastic waste. In San Diego Bay, fireworks for the proposed new displays would be launched from barges, and the waste resulting from exploded shells could fall primarily into the waters of the Bay. It is anticipated that some of this debris would sink to the bottom, and a smaller amount would wash onto adjacent shorelines.

The exact total volume of trash and debris that would be generated by the proposed new fireworks display events in south San Diego Bay is unknown; however, it is estimated that the net weight of pyrotechnic materials in an aerial fireworks shell (Class B) is typically about half (i.e., 50 percent) the total weight (Poulton and Kosanke, 1995 as cited in Amec Foster Wheeler, 2016). Amec Foster Wheeler (2016) indicates that the weight of the debris recovered from the detonation barges combined with the dry weight of the debris collected from the surrounding waters should equal approximately one-half of the total display weight. Therefore, if the total weight of recovered debris is less than this, it can be assumed that this unaccounted portion remains in the water and surrounding habitat. Furthermore, the fallout area for the aerial debris is determined by local wind conditions. While this area is variable between sites and events, long-term studies performed within the Monterey Bay National Marine Sanctuary (MBNMS), indicate the bulk of the debris will fall to the surface within a 0.5-mi (0.8-km) radius of the launch site (NMFS 2012). NMFS noted that heavier trash, such as cardboard casings, land closer to the launch site, while lighter trash, such as cotton and plastic waste travel farther, propelled by winds. The MBNMS conducted surveys of solid debris on surface waters, beaches, and subtidal habitat and found no visual evidence of acute or chronic impacts to the environment or wildlife (NMFS and MBNMS 2006). However, cleanup activities immediately following displays did, in some instances, collect debris (including cardboard cylinders, disks, and shell case fragments; paper strips and wading; plastic wading, disks, and tubes; aluminum foil; cotton string; and even whole unexploded shells) from waters and beaches of Monterey Bay.

The majority of wetlands and sensitive habitats (e.g. eelgrass beds) within the Bay occur in the southern portion of the Bay. Eelgrass coverage varies annually, and represents approximately 10% of the habitat within the Bay. Salt marshes occur over approximately 800 acres of the Bay, or approximately 4% of the habitat within the Bay (U.S. Navy 2013). There are no existing fireworks display events requiring a discretionary action by the District or operated by the District's currently occurring in south San Diego Bay. However, the proposed new fireworks display events would include up to three fireworks display events along the Chula Vista Bayfront, as allowed by the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July fireworks display along the National City Bayfront. These displays are anticipated to take place off barges that would be moved to their locations and held in place by a tugboat.

Based on the trash generation percentages described above, it can be assumed that approximately 228 pounds of debris would be generated by each of the proposed new Fourth of July fireworks display events and approximately 57 pounds of debris would be generated by each of the proposed new non-Fourth of July displays, some of which may remain in the water following the display and potentially degrade sensitive habitats or wetlands within the south Bay.

Fireworks-generated trash and debris could degrade sensitive habitats and wetlands. This is a potential significant impact. However, fireworks trash and debris from the proposed new fireworks display events would be subject to the Fireworks Best Management Practices (FBMPP) provisions of the San Diego Water Board's General Permit, which include post-display cleanup practices. The Water Quality technical report identifies post-display clean up practices consistent with these requirements of the General Permit (Amec Foster Wheeler 2016). Implementation of these measures, which are re-stated in Section 7.0 below, would ensure that fireworks-generated trash and debris is effectively collected and disposed of. Furthermore, the anticipated wide dispersal of any remaining amount of largely cellulose-based trash and debris generated from the displays is not anticipated to result in a reduction of amount or quality of sensitive habitats or wetlands within the Bay. As such, direct impacts on sensitive habitats and federally protected wetlands in San Diego Bay due to fireworks-generated trash and debris would be reduced to a level of less than significant with implementation of the cleanup measures (Resource Protection Measures 5, 6, 7, and 8) described in Section 7.0 below.

Reduced Water Quality

Other impacts to marine waters, habitats, and wetlands could occur as a result of chemical residues that might fall into surface waters and affect water quality during and after the fireworks displays. Results of water quality testing following the Big Bay Boom, as well as the more extensive and long-term SeaWorld fireworks display events, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Perchlorate is the only chemical of concern that has consistently been measured in post-fireworks display water quality testing. Perchlorate, used as an oxidizer in propellants for fireworks, is recognized as an environmental contaminant that can harm fish and humans. However, concentrations of perchlorate found in post-fireworks water quality samples for the existing Big Bay Boom and SeaWorld displays have been less than 10 µg/L (i.e. less than 0.01 mg/L), which is several orders of magnitude less than concentrations found to cause toxicity in laboratory studies (Amec Foster Wheeler, 2016). Further toxicity testing and benthic community studies completed following SeaWorld fireworks displays indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Amec Foster Wheeler, 2016). For these reasons, direct impacts of reduced water quality on habitats and wetlands of San Diego Bay would be less than significant.

Eelgrass

The subtidal waters of south San Diego Bay are typically shallow (ranging between s -2.2 to -12 ft MLLW) (U.S. Navy 2013). An unvegetated moderately deep water channel provides safe navigation from the central portion of the Bay to the Chula Vista Marina (Figure 2). Two westerly branches to the Chula Vista Marina channel also occur, one extends to Emory Cove on the west side of the bay

and the other dead-ends into the shallow subtidal flats of the south bay. An additional unvegetated channel occurs at the former South Bay Power Plant intake channel. Outside of these channels, the shallow flats of the south Bay support extensive eelgrass beds in very shallow to moderately shallow waters. In addition, eelgrass habitat provides important nursery habitat functions for fish and invertebrates and also provides substrate supporting eggs for various invertebrate species. The positioning of fireworks barges over the shallow flats could result in direct impacts to eelgrass habitat and its nursery habitat functions, particularly at low tides. Impacts could occur as a result of temporary grounding or settling of barges and tugboats on the bottom at low tide. Additional impacts could occur from prop wash or prop drag from tugboats during barge maneuvering. Tugboats have large props and high thrust capacity that could dredge up eelgrass in shallow waters, even if grounding does not occur. This could result in temporary and/or permanent losses of eelgrass habitat. The potential for direct impacts to eelgrass are considered to be significant, and would be reduced to a level of less than significant by implementing measures to avoid impacts as well as to monitor for and mitigate any unanticipated impacts that do occur. These measures include completion of pre- and post-event eelgrass surveys within south San Diego Bay fireworks shows where shallow water eelgrass occurs in areas at or near launch sites, conducting tug operator training to ensure that the operators are advised of the eelgrass concern and take prudent steps to minimize risks such as remaining outside of eelgrass areas to the extent practical and controlling thrust rate and angle to minimize propeller wash (Resource Protection Measure 13).

Indirect Impacts - Human-generated traffic and debris and physical habitat damage

San Diego Bay is an active military, commercial, and recreational port located in an urban setting. The majority of the shoreline of the Bay is developed. The proposed new fireworks displays could draw a large number of visitors to the Bay, and the majority of visitors would view fireworks displays from the developed shorelines and parklands along the National City and Chula Vista Bayfronts, with some additional visitors viewing the displays from boats. The potential increased number of visitors would likely result in increased trash and debris from picnics and parties, some of which could wash into adjacent bay waters.

As mentioned, shallow vegetated habitat (e.g. eelgrass) occurs in the vicinity of the proposed new displays along the National City and Chula Vista Bayfronts. Increased boat traffic could result in minor damage to eelgrass beds through unauthorized anchoring and/or propeller dragging. The proposed new fireworks displays in south San Diego Bay are not anticipated to occur immediately adjacent to salt marshes; however, visitors that view the displays from kayaks or personal water craft could drag watercraft onto shorelines adjacent to coastal salt marshes and inadvertently damage eelgrass or marsh habitat.

Additionally, the proposed new fireworks display events could potentially attract crowds to the Silver Strand State Beach, some of whom may trespass into restricted beach areas that are utilized by sensitive avian species. For habitats, potential impacts may include trampling of vegetation and an increase of human-generated trash and litter. Potential impacts to sensitive species are discussed below.

Indirect impacts to habitats of San Diego Bay, including Silver Strand State Beach from increased trash and debris, as well as inadvertent damage of sensitive habitats and wetlands (e.g., eelgrass

and coastal salt marshes) caused by boat or foot traffic into these areas, may be significant. Implementation of the cleanup, security, and education measures (Resource Protection Measures 9, 10, 11, and 12) described in Section 7.0 below would reduce indirect impacts to habitats and wetlands to a level of less than significant.

Direct and Indirect Impacts to Wildlife

The primary direct impacts from fireworks displays on wildlife could include disturbance or alteration of behavior due to sound waves, light, or fireworks debris. If chemical residue from fireworks adversely affects water quality, chemical residues introduced into the water from fireworks may also impact wildlife. The primary indirect impacts to wildlife could include disturbance or alteration of behavior due to increased boat traffic or human-generated trash and debris, including encroachment into sensitive nesting areas. The following text describes specific direct and indirect impacts as they pertain to wildlife species that occur within and adjacent to San Diego Bay.

Marine Reptile Impacts

Direct Impacts - Fireworks-generated Debris, Light, and Noise, and Reduced Water Quality

San Diego Bay supports a small number of green sea turtles. A satellite tagging study of green sea turtles in San Diego Bay has been ongoing since 2008. Results indicate that habitat usage has shifted since the closure of the South Bay Power Plant (SBPP). Turtles tagged and tracked before the closure of the power plant were most commonly found seasonally in the warm waters of the SBPP cooling water discharge channel, on the south side of the Chula Vista Wildlife Reserve (Bredvik et al. 2015, Graham and Saunders 2014). In the years following closure of the power plant, tracking results indicate that the turtle activities may have shifted to the northern side of the Chula Vista Wildlife Reserve (the old cooling water intake), as well as more northerly areas in south San Diego Bay. Occasional observations from northern San Diego Bay and in nearshore coastal waters outside of the Bay have also been made as individuals travel north to exit and re-enter the Bay. Despite the change in home range and the increase in observations in the central and northern portions of the Bay, the resident population of green sea turtles remains predominantly in the far southern end of San Diego Bay. Tracking data from 2016 indicates that the turtles' home range is south San Diego Bay, where they spend 95% of their time (SDUPD 2016).

As described previously, the majority of turtles in San Diego Bay occur in the southern end of the Bay. There are no existing fireworks display events in south San Diego Bay. The proposed new fireworks display events would include up to three fireworks display events along the Chula Vista Bayfront, as allowed by the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July fireworks display along the National City Bayfront.

Direct impacts to green sea turtles from the proposed new fireworks display events could include disturbance or alteration of behavior due to sound waves, light, or debris. Also, the introduction of fireworks-generated trash and debris could cause injury to turtles because the green sea turtles

may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. As the majority of turtles in San Diego Bay occur in the southern end of the Bay, it is not likely that they will be affected by the Big Bay Boom and other displays in the northern and central portion of the Bay or by the Fourth of July display along the Imperial Beach Oceanfront.

Merkel & Associates, Inc. (M&A) found no peer reviewed literature that investigates the direct response of marine reptiles to commercial pyrotechnics displays. However, Zhang (2002) found that sound pressures in the range produced by fireworks generally decouple at the air-water interface. This suggests that increased noise from fireworks would minimally affect turtles in the water. Additionally, increased light levels would only be apparent to turtles surfacing to breathe at the time of the fireworks detonation. Based on the small number of proposed new displays in the southern portion of the Bay where green sea turtles are known to congregate, a decoupling of aerial detonation sound and light, the limited number of turtles and limited time turtles spend above the surface of the water, direct impacts to green sea turtles due to sound waves and light would be less than significant.

Fireworks-generated trash and debris could cause injury to turtles because they may mistakenly consume the waste, which could cause suffocation or starvation. This is a potential significant impact. However, fireworks trash and debris from the proposed new fireworks display events would be subject to the Fireworks Best Management Practices (FBMPP) provisions of the San Diego Water Board's General Permit, which include post-display cleanup practices. The Water Quality technical report identifies post-display clean up practices consistent with these requirements of the General Permit (Amec Foster Wheeler 2016). Implementation of these measures, which are restated in Section 7.0 below, would ensure that fireworks-generated trash and debris is effectively collected and disposed of. As such, direct impacts green sea turtles due to fireworks-generated trash and debris would be reduced to a level of less than significant with implementation of the cleanup measures (Resource Protection Measures 5, 6, 7, and 8) described in Section 7.0 below.

Other direct impacts to marine reptiles may occur if chemical residues that might fall into surface waters adversely affect water quality during and after the fireworks displays. These chemicals and metals, when present in large enough concentrations, have potential to accumulate in sediments, leach into groundwater, and negatively affect the health of humans and other organisms (Amec Foster Wheeler, 2016). However, results of water quality testing following the existing Big Bay Boom, as well as the more extensive and long-term SeaWorld fireworks displays, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Perchlorate is the only chemical of concern that has consistently been measured in post-fireworks display water quality testing. Perchlorate, used as an oxidizer in propellants for fireworks, is recognized as an environmental contaminant that can harm fish and humans. Concentrations of perchlorate found in post-fireworks water quality samples for the existing Big Bay Boom and SeaWorld displays have been less than 10 µg/L (i.e. less than 0.01 mg/L), which is several orders of magnitude less than concentrations found to cause toxicity in fish and aquatic organisms in laboratory studies (Amec Foster Wheeler, 2016). Further toxicity testing and benthic community studies completed following SeaWorld fireworks displays indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Amec Foster Wheeler, 2016). For these reasons, potential direct impacts of reduced water quality on marine reptiles would be less than significant.

Indirect Impacts - Human-generated Debris, Boat Traffic

Marine reptiles in south San Diego Bay may also be indirectly impacted by increased boat traffic and human-generated trash entering the marine environment associated with the proposed new fireworks display events. The potential increase in boat traffic, particularly night-time and out of channel traffic, would increase the potential for propeller strikes which may cause injury or death to green sea turtles. Increased boating activities could cause the animals to temporarily depart the project area before, during and after the time of the fireworks displays to avoid higher vessel traffic. The increase in activity may also affect the turtles' foraging habits in that individuals may spend more time underwater, swim at greater speeds and alter other life history traits leading to greater energy expenditure. The introduction of human-generated trash could also cause injury to turtles because the turtles may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation.

Indirect impacts to marine reptiles, including increased boat traffic and human-generated trash entering the marine environment, may be significant. Implementation of the cleanup, security, and education measures (Resource Protection Measures 9, 10, 11, and 12) described in Section 7.0 below would reduce indirect impacts to marine reptiles to a level of less than significant.

Bird Impacts

Several studies have observed the behavioral changes of sensitive avian species during existing fireworks display events. A literature review of these existing studies and research was conducted, with the results summarized below. Four avian species that are listed by USFWS and/or CDFW as federally or state endangered or threatened have a high potential to occur within and adjacent to San Diego Bay. These include California least tern, western snowy plover, light-footed Ridgway's rail, and Belding's savannah sparrow. The nesting sites of these four species are within audible and visual range of the proposed new fireworks displays and have the potential to be impacted. Nesting areas for listed species are illustrated in Figure 3. Other avian species that are potentially affected include California brown pelican and double crested cormorant, as these species nest and/or roost in the Bay. Several additional species of terns and black skimmer nest at sites that also support California least tern. As such, these species may be similarly affected by the proposed new fireworks displays.

A review of relevant literature shows that several studies have observed the behavioral changes of sensitive avian species during existing fireworks display events. The impact analysis below relies on the results of the existing studies to draw conclusions of the potential effects on avian species from the proposed new fireworks display events along the National City and Chula Vista Bayfronts.

Direct Impacts - Fireworks-generated Debris, Light, and Noise, and Reduced Water Quality

Direct impacts to sensitive avian species within the project area could include disturbance or alteration of behavior due to sound and light from fireworks displays. The flash and noise from the proposed new fireworks display events are expected to generate a physiologic response of stress within birds; this would be particularly notable in birds that are night roosting (e.g. California least

terns, and to a lesser extent, western snowy plovers) as the normal physiological state of birds at rest is low anxiety. For nest tending or roosting birds, especially at night, stress and alarm levels could be heightened by unanticipated noise and light displays. This stress can result in increased vocalizations, shifting on nests, and movement off nests (including running or flight, and larger scale colony alarm). Also, the introduction of fireworks-generated trash and debris could cause injury to sensitive avian species because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Sensitive bird species within San Diego Bay and along the Silver Strand could be affected by the proposed new fireworks displays in the Bay along the National City Bayfront and Chula Vista Bayfront.

Due to only a small quantity of published research on the effects of existing pyrotechnic displays directly relating to California least tern and other sensitive avian species present within the Bay, the literature review was expanded to include potential effects of fireworks displays on marine bird and shorebird species in general. The following analysis includes all relevant studies reviewed.

Within San Diego Bay, an unpublished report produced by the San Diego Zoo's Institute for Conservation Research (ICR) studied the California Least Tern Population at Naval Base Coronado both before (July 3rd) and during the 4th of July Coronado fireworks display (Boylan and Nordstrom, "Fireworks Over Glorietta Bay" (2014)). The study looked at sections of two colonies (one closest to and one farthest from the fireworks display) on the 3rd and the 4th of July, 2014. The colony at Delta Beach North was located approximately one mile from the detonation site, and the colony at the southern portion of the Naval Amphibious Base was located approximately three miles from the detonation site. [An analysis of flying and calling behavior and routine monitoring data did not reveal a substantial adverse impact to the terns by the Coronado fireworks display. The study did find that the indirect effects of the 4th of July activities (vehicular activities, foot traffic and illegal fireworks on the nearby Silver Strand State Beach) caused the majority of the disturbance. This is discussed further in the indirect impacts section below. A similar result was reported by Robert Patton, a consulting biologist with the San Diego Zoological Society as a result of monitoring commissioned in 2009 by the Port of San Diego and San Diego Regional Airport Authority over several recent large scale fireworks events, such as the Big Bay Boom. The monitoring was started due to concerns raised by USFWS and CDFW. Informal emails from Mr. Patton (dated 2009, 2010 and 2011) detail a notable response to disturbances from fireworks noise and light by a habituated California least tern colony at San Diego International Airport. Mr. Patton noted over several years of monitoring during the 4th of July fireworks display that roosting terns shifted to higher activity levels in response to the displays. Some terns initiated running or flying in response to fireworks, while birds also increased alarm call vocalizations. However, during each monitoring year, the majority of the flock ($\geq 75\%$ of total birds) remained in place for the duration of the fireworks display and the remainder returned and settled within thirty to sixty minutes of completion of the display. Mr. Patton indicated that fireworks could pose a threat, particularly for disturbed chicks and fledglings that could run into roadways or traffic. However, Mr. Patton specified, that there is "no observed clear evidence of lasting negative effects [of fireworks displays]". Finally, Mr. Patton indicated that the habituation of the San Diego International Airport least tern colony to loud noises from aircraft make applicability of monitoring results across colonies difficult, and that "colonies elsewhere with less habituation to noises would be expected to react more than those at the airport". Neither study completed in San Diego Bay detected a direct link of fireworks displays to mortality of adults or chicks, or to a decrease in productivity of nesting pairs.

Additional studies have been conducted outside San Diego Bay. A document produced by the USFWS titled “Guidelines for Managing Fireworks in the Vicinity of Piping Plovers at Sea Beach Amaranth on the U.S. Atlantic Coast” (1997) states that there have been several situations where fireworks discharged on the beach within close proximity to the nesting least terns (*Sterna antillarum*) have caused the birds to abandon nests. An August 1993 fireworks display in New Jersey caused permanent abandonment of a least tern colony located approximately 0.15 mile away, and a 1994 New Jersey fireworks display caused temporary abandonment and displays of distress by terns within a colony located approximately 3/4 mile away. These studies, while cited by USFWS, are unpublished and information regarding the size and duration of the fireworks displays and the proximity of displays to nesting colonies is not available. As a result, correlations cannot be drawn between New Jersey and San Diego Bay displays.

Another study by the Bureau of Land Management, the California Department of Fish and Game, the US Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (Weigand and McChesney 2008) focused on populations of breeding seabirds on Gualala Point Island, Sonoma County, California. The study focused on Brandt’s Cormorant (*Phalacrocorax penicillatus*), and examined potential responses and effects on reproductive success from a July 6th fireworks display. Observations documented a visible response by nesting seabirds on Gualala Point Island, located approximately 1.1 miles from the fireworks detonation site. Surveys during the fireworks display showed that Brandt’s Cormorants quickly changed from resting to erect postures at the first fireworks, followed by birds moving about or departing from the island. Western gulls in the study area also flushed, circled and called during the fireworks display. During the study period, 90 Brandt’s cormorant nests were documented on Gualala Point Island. Of these, seven nests (35% of nest failures) were abandoned in the two days between July 5th and 7th, and another seven nests were abandoned between July 7th and 12th. These losses contrasted with the abandonment of only six nests (30% of nest failures) for the 30-day period from June 5th to July 5th. Two of the nine nests monitored from the adjacent mainland were abandoned between July 6th and 8th. The high rate of Brandt’s cormorant nest abandonment between July 5th and 7th, and possibly nest abandonment from July 7th to 12th, were reported as likely the result of fireworks disturbance. However, the Gualala seabirds studied roost and nest in an offshore island that does not receive the same level of on-going human disturbance as the San Diego Bay and Silver Strand populations of sensitive avian species.

Finally, a study by Shamoun-Baranes *et al.* (2012) in the Netherlands used weather radar to study the flight response of birds during New Year’s Eve fireworks celebrations. The study observed hot spots of activity over lakes, wetlands, and river floodplains. Flight altitudes increased rapidly during the first 15 to 20 minutes after the beginning of the fireworks event (at midnight), and then slowly decreased, with the main disturbance period lasting about 45 minutes. The study did not identify the size and duration of fireworks displays, and did not quantify the distances of nature reserves and lakes (where waterfowl concentrate) from fireworks displays. Rather, the study focused on a broad area near DeBilt, Netherlands, which is adjacent to multiple Natura 2000 designated lakes and wetlands. The study also noted that fireworks are available for consumer purchase in the Netherlands around New Year’s Eve, and may be legally lit for a small period of time between December 31 and January 1 each year, with the largest concentration lit at midnight on New Year’s Eve. Therefore, it can be assumed that the fireworks included both large public displays as well as abundant small scale personal displays deployed over a small time period. The study did not expect

fireworks to be directly lethal to birds; however confounding factors, such as disorientation, or flying in inclement weather, could potentially result in harm.

Monitoring studies completed at California least tern nesting colonies in San Diego Bay note some limited response of California least terns to noise and light from existing fireworks display events; however, these studies indicate that the majority of birds in the colonies remain in place or return shortly after the fireworks displays. No incidence of death or injury of birds has been reported during any of the monitoring studies completed. The evidence presented from studies within the Bay, the urbanized setting of nesting colonies and roosting locations within the Bay, and the distance of these sites from the existing fireworks displays, indicate that sensitive and non-sensitive avian species experience a moderate level of temporary disturbance from noise and light associated with existing fireworks displays.

Based on results from these multiple studies, it is apparent that seabirds and shorebirds show some direct physiological stress response (typically as increased vocalizations, change in body position, running and flushing) to the loud noises and increased light associated with fireworks displays. The studies indicated that the response is likely greater for birds that are not habituated to human noise and disturbance. As such, it can be assumed that the close proximity of nesting and roosting sensitive birds to urban locations in San Diego Bay and along the Silver Strand (that include a commercial airport and multiple naval facilities) likely habituates them to higher levels of noise and light patterns. None of the studies indicated direct mortality of birds or a decrease in productivity associated with fireworks displays, and no study indicated long-term changes in behavior (e.g. total colony abandonment) related to fireworks displays. The San Diego Bay and/or Silver Strand nesting and roosting locations for sensitive avian species, including California least tern, western snowy plover, California brown pelican, double-crested cormorant, Caspian and elegant terns, and black skimmers are situated within moderately to highly urbanized settings. The proposed new fireworks display events along the National City and Chula Vista Bayfronts would occur approximately one mile from California least tern and western snowy plover nesting colonies. Additionally, the proposed new fireworks display events would occur in the vicinity of other nesting sites located in south San Diego Bay at the South Bay Salt Works (which support double-crested cormorant and multiple other tern species) and adjacent coastal salt marshes (which support Belding's Savannah sparrow and light-footed Ridgway's rail, as well as multiple sensitive raptor species).

The larger of the events would occur during the avian breeding season, while it is anticipated that some of the smaller events would occur during periods when these avian species are not nesting and the California least terns are not present in the region (mid-September through March).

The Endangered Species Act defines the term "harm" to include "any act which actually kills or injures fish or wildlife", and emphasizes that "such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife". "Harassment" is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering" (50 C.F.R. §17.3). Under these definitions, it does not appear that the levels of disturbance stress generated from the fireworks shows translate to a level achieving that of harassment or harm for avian species. There is no evidence from studies completed to date that fireworks displays harm or harass sensitive

avian species (e.g. is unlikely to result in direct mortality of birds, a decrease in productivity, or long-term changes in behavior such as colony abandonment), and therefore, the new fireworks displays along the Chula Vista and National City Bayfronts would not be expected to result in take of federally-listed avian species as defined in the ESA

While disturbance does not directly translate to ESA defined harm or harassment, take, it can have less than significant impacts on wildlife, including listed species. Disturbance exists when a stimulus induces physiologic stress or behavioral response in an organism. In particular, disturbance may affect nesting or roosting birds in response to both noise and light stressors. This short-term and infrequent disturbance, which does not lead to death or physical harm and which does not increase likelihood of injury, is not considered a significant adverse biological affect. It is not expected that re-location of fireworks displays further from nesting colonies, limiting the display duration, or including a ramp up period would eliminate the short-term disturbance of sensitive avian species. However, implementation of Resource Protection Measures 1, 2, 3, and 4 identified in Section 7.0 below would ensure that potential effects on sensitive species remain less than significant and would lessen impacts further, thus creating a disturbance buffer between unavoidable levels of stress that are associated with fireworks shows, and harm that could result from excessive disturbance levels. Implementation of the cleanup measures (Resource Protection Measures 5, 6, 7 and 8) described in Section 7.0 would ensure that impacts to avian species from fireworks-generated trash and debris that enters the water remain less than significant.

Other impacts to birds could occur if chemical residues that might fall into surface waters adversely affect water quality during and after the fireworks displays. These chemicals and metals, when present in large enough concentrations, have potential to accumulate in sediments, leach into groundwater, and negatively affect the health of humans and other organisms (Amec Foster Wheeler, 2016). However, results of water quality testing following the Big Bay Boom, as well as following the more extensive and long-term SeaWorld fireworks displays, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Concentrations of perchlorate found in post-fireworks water quality samples for the existing Big Bay Boom and SeaWorld displays have been less than 10 µg/L (i.e. less than 0.01 mg/L), which is several orders of magnitude less than concentrations found to cause toxicity in fish and aquatic organisms in laboratory studies (Amec Foster Wheeler, 2016). Further toxicity testing and benthic community studies completed following SeaWorld fireworks displays indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Amec Foster Wheeler, 2016). For these reasons, potential direct impacts on birds associated with reduced water quality from the proposed new displays would be less than significant.

Indirect Impacts – Boat Traffic, Human-generated Debris, and Human Disturbance

Indirect impacts to sensitive avifauna can include disturbance associated with increased boat and foot traffic in the vicinity of nesting and roosting locations, as well as and human-generated trash. Fireworks spectators may trespass onto closed avian nest sites or roosting areas in order to obtain private viewing locations. This presently occurs at a low level during intensive bay use periods such as summer holidays and weekends. However, under typical evenings, the trespass onto colony

nesting sites by the public is low, particularly at night. During the proposed new fireworks displays, however, the likelihood of trespass would increase.

The study on Naval Base Coronado (Boylan and Nordstrom 2014) suggests that indirect effects such as increased boat and foot traffic, trespass, and human-generated trash and debris during fireworks displays were possibly a greater threat to sensitive avian species than direct effects such as temporary noise and light disturbances from the fireworks themselves. Boylan and Nordstrom noted that illegal fireworks ignited immediately adjacent to nesting colonies, as well as increased foot traffic on sand dunes and beaches caused the majority of disturbance to nesting California least tern during and immediately after fireworks displays. Additional indirect impacts could include increased trash associated with human use, and noise associated with boating activity adjacent to nesting sites. The introduction of human-generated trash could also cause injury to sensitive birds because the birds may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. While many nesting sites for California least tern and western snowy plover in and around San Diego Bay are located behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Therefore, indirect impacts related to increased boat traffic and foot traffic, as well as human-generated debris, in the vicinity of nesting and roosting areas may be significant.

Implementation of the cleanup, security, and education measures (Resource Protection Measures 9, 10, 11, and 12) described in Section 7.0 below are expected to reduce potential indirect impacts to avian species to a level of less than significant.

Marine Mammal Impacts

Similar to avian species, several studies have been completed to observe the potential for behavioral changes of marine mammals during fireworks display events. The impact analysis below relies on the results of the literature review of existing studies and surveys to draw conclusions regarding the potential effects on marine mammals from the proposed new fireworks display events along the National City and Chula Vista Bayfront.

Direct Impacts - Fireworks-generated Debris, Light, and Noise, and Reduced Water Quality

Pacific harbor seal and California sea lions are very likely to occur within San Diego Bay. Neither species breeds within San Diego Bay, but both spend time foraging and loafing in the waters of the Bay. They are most common in the northern portion of the Bay, substantially decreasing in occurrence in the south Bay region where large schools of pelagic fish and opportunistic foraging and haul out locations are reduced. California sea lions are rarely observed in the south bay region. Similarly, while harbor seals occasionally haul out and loaf on intertidal rip rap, they prefer to haul out on protected sandy and rocky beaches, and no large haul-out areas for this species occur in San Diego Bay. This species is rarely observed in the south Bay region. Furthermore, several species of cetaceans, such as whales and dolphins, have low potential to occur in northern San Diego Bay, and have little likelihood of occurring in the south Bay region in the vicinity of the proposed new fireworks display events along the National City Bayfront and Chula Vista Bayfronts. There are a number of reports that detail the responses of Californian sea lions and harbor seals to fireworks

displays, and some peer reviewed literature that describes the effects of non-pyrotechnic sources of sound and light on marine mammals. In order to provide a comprehensive review of this issue, a literature search was expanded to include non-pyrotechnic noise and light sources.

M&A completed an observational study before, during and after the Big Bay Boom fireworks show on July 4, 2015 to evaluate the behavior of hauled out sea lions in response to the fireworks show (M&A 2015, Appendix A). The investigation was performed at the San Diego Bay Bait Barge located in north Bay offshore of the Point Loma Naval installation, and located approximately 1.6 miles from the closest fireworks launch barge. Results indicated that sea lions experienced a moderate level of disturbance in response to the noise and light of the Big Bay Boom (as indicated by increased vocalizations, head lifting, shifting position, and in some cases, departing from the bait barge to adjacent waters). However, the study noted that this response was less than or commensurate to the response of the sea lions to ordinary boat traffic and people walking on the bait barge and much less than intraspecific harassment of subordinate animals by large bull sea lions. A large percentage of vocalizations was due to aggressive bull sea lions challenging each other noisily, and several animals were observed diving into the water in response to challenges from large bulls. Disturbance associated with the 2015 Big Bay Boom was most noticeable following the initial detonations of fireworks; however, sea lions remaining on the bait barge settled into resting position for the duration of the display. While focused studies have not been completed at other sites within the Bay, it is likely that fireworks displays that are generally shorter in duration and/or are farther from marine mammal haul out areas, likely result in a smaller and less apparent disturbance response in marine mammals.

It should be noted that the marine mammal observational study at the San Diego Bay Bait Barge focused on animals in a very urban setting. The San Diego Bay Bait Barge is located in an area of the Bay that receives a high level of boating and human activity. Recreational boats of all sizes regularly tie up at the bait barge and people walk along the bait barge to purchase bait and to fish. As such, the sea lion population at the bait barge is accustomed to human presence and to noises from boat engines and people. While the recent study did not involve long term monitoring of the sea lion haul out at the bait barge, it does provide a good insight into the response of the local population of sea lions to fireworks. Other smaller haul out areas occur on channel marker buoys and on Zuniga Jetty with a few small intermittent haul outs also being within marina environments. No established haul out areas are located in south San Diego Bay, and sea lions have a very low likelihood of occurrence in the vicinity of the proposed Chula Vista and National City Bayfront fireworks displays.

Results from the San Diego Bay study are comparable to those of other studies including ongoing work in the Monterey Bay National Marine Sanctuary (MBNMS). In Monterey, the fireworks displays are detonated from a barge located approximately 0.5 miles from the breakwater where birds and marine mammals regularly haul out and/or rest; this is nearly one mile closer to marine mammals than the survey completed in San Diego Bay during the existing Big Bay Boom event. Studies completed within the MBNMS (NMFS and MBNMS 2002), and the subsequent Environmental Assessment and proposed federal ruling (NMFS and MBNMS 2006, NMFS 2012) indicate that disturbance resulting from fireworks displays would be, at most, the short-term flushing and evacuation of non-breeding haul out sites by California sea lions and harbor seals in Monterey Bay. In the nearly two decades of observing sea lions at the City of Monterey's Fourth of

July celebration, the following general observations were made: sea lions (1) become quiet and watchful as soon as fireworks commence; 2) juveniles begin leaving the breakwater as soon as the fireworks begin; (3) large bulls and the remaining adults depart to the water after an aerial salute or quick succession of loud effects; (4) individuals usually begin to return to the breakwater haul out within a few hours of the end of the display; and (5) sea lions are present on the breakwater at pre-firework numbers by the following morning (NMFS 2012). None of the studies within the MBNMS that directly observed California sea lions and/or harbor seals during fireworks displays found long-term substantial effects on these marine mammals. Studies at Vandenberg Air Force Base similarly indicate that the percentage of seals leaving the haul out increases with noise levels up to approximately 100 decibels (dBA), after which almost all seals enter the water; however, during many launches marine mammals are not disturbed (U.S. Air Force 2013). Noise in the Vandenberg Air Force Base studies was generated from missile launches and not fireworks.

Studies completed in other marine areas have been inconclusive. Weigand and McChesney (2008) studied the effects of fireworks on harbor seals on Gualala Island, Sonoma County, CA. The study did not find conclusive evidence of the effects of fireworks on the seals. Low-tide census counts were completed once per day during a twelve day study period. The study found that, in general, counts declined through the study period, with the lowest count found on the day of the fireworks display. Further, just before the Gualala fireworks display began and while the island was still visible, observers did not locate any harbor seals from either vantage point on Gualala Point Island. Thus, a link between a decline in numbers over the study period and the fireworks display was not determined.

Recently, the NMFS ruled on a request for an incidental harassment authorization (IHA) from the St. George Reef Lighthouse Preservation Society (NMFS 2015). The Society proposes to conduct aircraft operations, lighthouse renovation, and light maintenance activities on the St. George Reef Light Station on Northwest Seal Rock in the northeast Pacific Ocean. The station currently supports populations of marine mammals including California sea lion and Pacific harbor seal, among other species. The NMFS ruled that small evidence of disturbance to marine mammals, including becoming alert, head turning, or movement of less than one meter, in response to noise and activity was not considered to be harassment. Rather, the NMFS ruled that only pinnipeds that move greater than 1 meter (m) (3.3 feet (ft)) or change the speed or direction of their movement in response to the presence of humans or human-related noise and activity are considered behaviorally harassed.

In addition to direct behavioral disturbance, there has been concern that loud noises (such as from explosive detonations) could impact the physiology (e.g. hearing) of marine mammals (Weilgart 2007 and 2011). A study published by Koper and Plon (2012) suggested high intensity underwater sound can affect marine mammals by causing stress, perceptual interference, behavioral changes, and chronic responses, and indirect effects on predator species as a consequence of a change in prey distribution or abundance due to direct effects of sound on the prey. However, unlike underwater detonations or pile driving, fireworks displays are aerial. Zhang (2002) modeled the transmission of sound from air to water and found that sound pressures in the range produced by fireworks generally decouple at the air-water interface. Studies completed at Vandenberg Air Force Base indicated no physiological response on the hearing of harbor seals following rocket launches with A-weighted Sound Exposure Level (SEL) of between 96 to 104 dbA (NMFS 2002). Based on an

analysis of existing data, NMFS adopted a conservative estimate of A-weighted airborne sound intensity level of 128 dBA to elicit physiological damage to marine mammals within the MBNMS. Studies in MBNMS and the recent study in San Diego Bay in association with the 2015 Big Bay Boom indicate that the sound level of fireworks displays at haul outs were in the range of between 70 and 85 decibels (dBA) (M&A 2015, NMFS 2012). Additional noise monitoring conducted near haul outs in the San Diego Bay during the 2016 Big Bay Boom fireworks display indicated 1-minute average (Leq) sound levels ranging from 57 to 76 dBA and maximum (Lmax) levels ranging from 62 to 89 dBA (ICF 2016). These data suggest that, for the current duration and configuration of the Big Bay Boom, the sounds generated by fireworks displays were not great enough to damage hearing of marine mammals at the habitual haul out locations in the northern portion of the Bay. Notably, the peak sound levels at the San Diego Bait Barge during the course of monitoring were not generated by the 2015 fireworks display event, but rather were generated during intraspecific aggression by vocalizing bull sea lions (M&A 2015). This indicates that noise generated from the larger San Diego Bay fireworks show (Big Bay Boom) does not likely result in long-term or permanent effects on cetaceans or pinnipeds in the water. It is reasonable to extrapolate downward and conclude that lesser scale shows would have a lesser effect.

Results from the recent marine mammal study completed in San Diego Bay, along with the body of literature pertaining to the effects of fireworks and other loud noises on marine mammals, indicate that marine mammals experience a moderate level of temporary disturbance from noise and light associated with fireworks display events located within close proximity to marine mammal haul out areas. Based on the information above, fireworks display events do not appear to result in any long-term or permanent substantial adverse effects on marine mammals because temporary disturbance from noise and light is short-term and infrequent and does not result in direct mortality, permanent behavioral changes, or physiological effects. As discussed above, fireworks displays in San Diego Bay result in temporary disruption of behavioral patterns; however, in most instances, this disturbance is not considered harassment according to the recent NMFS ruling (NMFS 2015). . The level of disturbance is likely to be lower for fireworks displays that are shorter in duration and/or located further from known marine mammal haul out areas. There is no evidence that long-term harm comes to disturbed sea lions or seals from such displays.

Implementation of the proposed new fireworks displays along the Chula Vista and National City Bayfronts could result in potential direct impacts on marine mammals primarily from fireworks-generated debris, light, and noise. Similar to those for avian species, potential direct impacts on marine mammals could include increased noise and light from the proposed new displays, which could result in elevated stress response. In addition, the introduction of fireworks-generated trash and debris could cause injury to marine mammals because the marine mammals may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. As discussed above, Pacific harbor seal and California sea lions are very likely to occur within San Diego Bay. Neither species breeds within San Diego Bay, but both spend time foraging and loafing in the waters of the Bay. However, as described above, both species are most common in the northern portion of the Bay, substantially decreasing in occurrence in the south Bay region. Additionally, due to the lack of haul-out areas in south San Diego Bay, increased light levels would only be apparent to marine mammals surfacing to breathe at the time of the fireworks detonation, further reducing the likelihood for disturbances to marine mammals from these new shows. Several species of cetaceans, such as whales and dolphins, have a very low potential to occur in south San Diego Bay,

especially in the vicinity of the proposed new fireworks display events along the National City and Chula Vista Bayfronts. Therefore, based on the limited presence of marine mammals and lack of haul-out areas in the southern portion of the Bay, the proposed new fireworks display events are not expected to result in disturbances to these species from increased noise and light associated with the displays. Consequently, the noise and light generated by the proposed new fireworks display events would not result in a significant direct impact on marine mammals.

Additionally, although marine mammals have a low potential to occur in the south Bay, marine mammals, if present, may inadvertently consume fireworks-generated trash and debris, which could cause suffocation, starvation, or debilitation. Compared to other marine animals, marine mammals are less likely to consume trash and debris. Instead, the majority of injury to marine mammals from trash and debris is from entanglement (in fishing lines, nets, plastic bags, etc.) as marine mammals are curious and explore new items in their environment (Sea Lion Center 2017). Impacts to marine mammals from fireworks-generated trash and debris is unlikely due to low potential for occurrence of these species in the area, due to the relatively discriminating forage behavior of marine mammals, and due to the fact that the type of debris produced by fireworks (e.g. cardboard, paper, plastic casings, etc.) is not likely to cause entanglement. However, however, implementation of the cleanup measures (Resource Protection Measures 5, 6, and 7) described in Section 7.0 below would ensure that this impact remains less than significant.

Other impacts to marine mammals may occur if chemical residues that might fall into surface waters adversely affect water quality during and after the fireworks displays. These chemicals and metals, when present in large enough concentrations, have potential to accumulate in sediments, leach into groundwater, and negatively affect health of humans and other organisms (Amec Foster Wheeler, 2016). However, results of water quality testing following the Big Bay Boom, as well as the more extensive and long-term SeaWorld fireworks displays, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Concentrations of perchlorate found in post-fireworks water quality samples for the existing Big Bay Boom and SeaWorld displays have been less than 10 µg/L (i.e. less than 0.01 mg/L), which is several orders of magnitude less than concentrations found to cause toxicity in fish and aquatic organisms in laboratory studies (Amec Foster Wheeler, 2016). Further toxicity testing and benthic community studies completed following SeaWorld fireworks displays indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Amec Foster Wheeler, 2016). For these reasons, potential direct impacts on marine mammals associated with reduced water quality from the proposed new displays would be less than significant.

Indirect Impacts –Human-generated Debris, Boat Traffic, and Human Disturbance

Indirect impacts on marine mammals from proposed new fireworks display events could include disturbance associated with increased boat and foot traffic and increased human-generated trash and debris. A study by Wells and Scott (1997) linked the increase of boating activities over holidays and in particular the 4th of July weekend to an increase in the number of injuries to marine mammals (dolphins and manatees). While the species in that study differ from those present in San Diego Bay, the proposed new night-time fireworks displays in San Diego Bay are anticipated to result in an increase in vessel activities on the four nights when the proposed new displays occur,

and thus the potential for collisions to occur increases. The Wells and Scott (1997) study did not link injuries directly to fireworks displays, but rather to increased boat traffic over the summer holiday weekend. Other studies (Janik and Thompson 1996, Mattson *et al.* 2005 and Nowacek *et al.* 2001) have described pronounced behavioral response of dolphins (increased swimming speed, diving and evasive maneuvers) to presence of personal watercraft. None of these studies focused specifically on effects of increased night boating traffic from fireworks displays, however, the potential increased use of water craft associated with the proposed new fireworks display events is considered a potential indirect effect.

Observations at MBNMS found that increased human usage (e.g. boating, kayaking, fishing, diving, swimming, surfing, picnicking, beach combing and tidepooling) of waters adjacent to fireworks displays increased gradually over the hours leading to fireworks displays (NMFS 2012). This human usage occurred in areas of the MBNMS with the highest levels of human activity. Marine mammals in the area were observed to temporarily depart the area during the hours immediately prior to the beginning of the fireworks display. However, NMFS noted that boaters traveled slowly and followed boating regulations, and that marine mammals returned to haul out areas following fireworks displays. No direct observations of disturbance or injury from human activity were noted.

In San Diego Bay, similar to the MBNMS, the proposed new fireworks displays are located in areas of relatively high ambient boating and human use (both recreational, commercial, and military). However, after dark, recreational boating activity is much less common and nighttime boating speeds are typically much slower than daytime boating speeds. Boating activity increases during holidays and weekends, and these times have a higher risk of animal collision that is not associated with fireworks displays. As discussed above, Pacific harbor seal and California sea lions are most common in the northern portion of the Bay where a majority of the haul out areas are located, substantially decreasing in occurrence in the south Bay due to the lack of haul out areas. Additionally, cetaceans such as whales and dolphins have a very low potential to occur in the vicinity of the proposed new fireworks display events. Therefore, based on the limited presence of marine mammals and lack of haul-out areas in the southern portion of the Bay, the proposed new fireworks display events are not expected to result in disturbances to these species from increased boating and human activity. Consequently, the proposed new fireworks display events would not result in a significant indirect impact on marine mammals.

Additionally, although marine mammals have a low potential to occur in the south Bay, marine mammals, if present, may mistakenly consume human-generated trash and debris, which could cause suffocation, starvation, or debilitation. This is unlikely due to the low potential for occurrence of these species, the relatively discriminating forage behavior of marine mammals, and due to the fact that the type of human-generated debris (e.g. bottles, cans, food wrappers) is not likely to cause entanglement. However, implementation of the cleanup measures (Resource Protection Measures 5, 6, and 7) described in Section 7.0 below would ensure that this impact remains less than significant.

Wildlife Corridor Impacts

Potential physiological and behavioral responses of resident and migrating avian, marine mammal, and marine reptile species within the project area to fireworks displays are described in the

previous sections. The discussion above focused on impacts to specific animals, including marine mammals, reptiles and birds. The following analysis is focused on whether the proposed project would interfere substantially with the movement of native resident or migratory fish or wildlife species, or established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Direct Impacts - Fireworks-generated Debris, Light, and Noise

San Diego Bay does not provide any terrestrial movement corridors, and no marine mammal, reptile, or fish migratory corridors occur within it. However, the southern portions of the Bay, including the South San Diego Bay Unit of the National Wildlife Refuge, provide stopover habitat for migrating waterfowl and shorebirds. The south Bay also provides nesting habitat for migratory avian species, and green sea turtles swim in and out of the Bay as well.

Currently, there are no existing fireworks display events requiring a discretionary action by the District or operated by the District's tenants occurring in south San Diego Bay. The proposed new fireworks display events include up to three fireworks display events along the Chula Vista Bayfront, as allowed by the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July fireworks display along the National City Bayfront. These proposed new fireworks display events would be located close to sensitive wetland habitats within the Bay that provide stopover habitat for migrating waterfowl and shorebirds, and nesting habitat for sensitive avian species.

As discussed above, the evidence presented from the studies and surveys evaluated in the literature review indicate that noise and light produced by fireworks do disturb California least terns at their nesting colonies. Studies have not shown birds to abandon nests; however, increases in running, flying and alarm calls in response to fireworks have been observed, indicating a moderate level of temporary disturbance. As described above, biological resources impacts would be considered significant if the proposed project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Based on the information presented in the discussion of potential wildlife impacts above, the proposed new fireworks display events are not anticipated to interfere substantially with the movement of any avian species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites (i.e., nesting colonies) because temporary disturbance from noise and light would be short-term and infrequent and would not result in direct mortality of birds, a decrease in productivity, or long-term changes in behavior (e.g., colony abandonment). Additionally, implementation of noise and light reduction measures for fireworks display events that would occur during the breeding season would further reduce the temporary disturbance experienced by migrating avian species.

As discussed above, Zhang (2002) found that sound pressures in the range produced by fireworks generally decouple at the air-water interface. This suggests that increased noise from fireworks would minimally affect marine mammals and marine reptiles in the water that would potentially be migrating through San Diego Bay. Additionally, increased light levels would only be apparent to marine mammals and marine reptiles surfacing to breathe at the time of the fireworks display

events as they pass along the National City and Chula Vista Bayfronts. As mentioned, based on the limited presence of marine mammals and lack of haul-out areas in the southern portion of the Bay, potential disturbances to these species from increased noise and light associated with the proposed new fireworks display events is further reduced. As such, the proposed project would not interfere substantially with the movement of any marine species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Further, the introduction of fireworks-generated trash and debris could cause injury to migrating marine reptiles, avian species, and marine mammals that utilize the San Diego Bay for stopover and nesting habitat because they may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. It is not anticipated that fireworks-generated trash and debris would result in a change in migration patterns or an abandonment of migration corridors. Implementation of the cleanup measures (Resource Protection Measures 5, 6, and 7) described in Section 7.0 below would ensure that this impact remains less than significant.

Overall, due to a lack of defined movement corridors within the study area and the short duration of fireworks display events, they are unlikely to result in long-term alteration of migratory patterns or abandonment of nesting sites. Consequently, it is not anticipated that fireworks-generated debris, light, and noise, will alter the migratory patterns of any species, nor render nesting sites inhospitable. Therefore, direct impacts of the proposed new fireworks display events on wildlife corridors, movement of resident and migratory species, and usage of nursery sites would be less than significant.

Indirect Impacts –Human-generated Debris, Boat Traffic, and Human Disturbance

As stated above, San Diego Bay does not provide any terrestrial movement corridors, nor any marine mammal, reptile, or fish migratory corridors. However, the southern portions of the Bay, including the South San Diego Bay Unit of the San Diego Bay NWR, provide stopover habitat for migrating waterfowl and shorebirds. Additionally, the south San Diego Bay also provides nesting habitat for migratory avian species. Marine mammals only rarely occur in the south bay region, but green sea turtles occasionally migrate in and out of the Bay.

Currently, there are no existing fireworks display events requiring a discretionary action by the District or operated by the District's tenants occurring in south San Diego Bay. The proposed new fireworks display events include up to three fireworks display events along the Chula Vista Bayfront, as allowed by the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July fireworks display along the National City Bayfront. These proposed new fireworks display events would be located closer to sensitive wetland habitats within the Bay that provide stopover habitat for migrating waterfowl and shorebirds, and nesting habitat (e.g. wildlife nursery sites) for sensitive avian species

Indirect impacts from human-generated debris, increased boat traffic, and human disturbance during and immediately after the proposed new fireworks displays could affect movement of resident or migrating species, or use of nursery sites. As discussed above, indirect impacts to sensitive avian species from the proposed new fireworks display events (increased foot traffic in or adjacent to nesting sites, increased trash, noise associated with boating activity, etc.) are possibly a greater threat to avian species than direct impacts. While many nesting sites for California least

tern and western snowy plover along the San Diego Bay are located behind fences or in secured areas, others are not, and even fenced sites are accessible by water. Indirect impacts of the proposed new fireworks displays on wildlife corridors, and movement of resident and migratory species is considered less than significant due to the short term disturbance would not result in changes in migratory movement or abandonment of stop over areas along migratory routes. However, impacts to usage of nursery sites are considered potentially significant due to disturbance noted in nesting birds. Implementation of the cleanup, security, and education measures (Resource Protection Measures 8, 9, 10, and 11) described in Section 7.0 below are expected to reduce indirect impacts to avian species to a level of less than significant.

As indicated above, marine mammals have a low likelihood of occurrence in the vicinity of the new fireworks displays located along the Chula Vista and National City Bayfronts. While, the introduction of human-generated trash and debris could cause injury to migrating marine reptiles, and marine mammals that utilize the San Diego Bay, it is not anticipated that this would result in a change in migration patterns, or abandonment of migratory routes. Implementation of the cleanup measures (Resource Protection Measures 5, 6, and 7) described in Section 7.0 below would ensure that this impact remains less than significant.

Overall, due to a lack of defined movement corridors within the study area and the short duration of fireworks display events, they are unlikely to result in long-term alteration of migratory patterns or abandonment of nesting sites. Consequently, it is not anticipated that human-generated debris, light, and noise, will alter the migratory patterns of any species, nor render nesting sites inhospitable. Any indirect impacts to nesting avian species would be reduced to less than significant with implementation of Resource Protection Measures. Therefore, indirect impacts of the proposed new fireworks display events on wildlife corridors, movement of resident and migratory species, and usage of nursery sites would be less than significant.

6.4 CUMULATIVE IMPACTS

Cumulative effects are defined by CEQA as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” Cumulative impacts can be derived from a single project or a number of separate projects, and is further defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions.” San Diego Bay and Imperial Beach Oceanfront are located in an urban setting with high military, commercial, and recreational usage. Marine mammals, and birds, that utilize the Bay and Imperial Beach Oceanfront are habituated to high levels of human activity and regular loud noises (from both commercial and military airports, and military and recreational watercraft).

Stress from long-term and continuous cumulative sound exposures can result in permanent behavior modification (e.g. avoidance of or abandonment of haulout and nesting areas), as well as physiological effects on reproduction, metabolism, and general health. However, fireworks display events have been ongoing in San Diego Bay and the Imperial Beach Oceanfront for many years (see Table 1). The displays are short in duration and intensity. There have been no studies completed

that indicate injury or mortality of sensitive wildlife, or decreased production associated with fireworks displays. Similarly, there is no evidence of reduction of sensitive habitats or wetlands.

One of the repeated impacts identified from fireworks events is an accumulation of trash and debris within the waters around the events. Several of the studies have noted that the debris from fireworks themselves typically are a minor contribution of the overall solid waste discharge associated with the event. Rather the discharges result from a combination of factors, including high public presence in the area, and discharge of all forms of paper, plastic, food, and metal wastes. This secondary waste source is coupled with the minor added input from fireworks waste of paper, aluminum, and plastics. Collectively, these waste streams create a considerable discharge to the marine environment that can include some wastes that have been identified as having potentially high risk of harm to fish, birds, marine reptiles, and mammals, such as some larger plastic wastes like six-pack holders, ingestible plastic bags and balloons, etc. The additional four fireworks displays in south San Diego Bay would not generate a significant contributory waste stream given the infrequency of events, low volume of waste produced, the small scale of waste remnants, and the predominance of the waste is naturally degrading cardboard. However, all events considered together would result in a cumulatively considerable waste load in the uplands and water due to the intensity of use of public spaces both on and off the water. As such, the project's cumulative contribution to accumulation of trash and debris is considered significant. Although this waste loading is partially offset by immediate clean-up following events, it would further be mitigated by event signage to promote proper waste disposal, addition of adequate waste receptacles, ongoing public education, and on-water vessel support during large events to discourage discharge of waste from boats. Implementation of Resource Protection Measures 5, 6, 7, and 8, identified below would reduce the project's contribution to this significant cumulative impact to less than significant.

7.0 PROPOSED RESOURCE PROTECTIVE MEASURES

The following resource protection measures are proposed to prevent and/or reduce impacts to sensitive habitats, marine reptiles, birds, and marine mammals. The majority of measures are recommended to protect multiple resources. As such, all resource protection measures are included together under a single heading and apply to all fireworks displays in the project area. The District will require fireworks organizers and operators to comply with the following measures as appropriate based on the seasonal timing, location (e.g. proximity to sensitive areas), and scale of each proposed fireworks event. The District also will implement a Mitigation, Monitoring, and Reporting Program (MMRP) ensuring that the mitigation and protective measures are carried out according to permit conditions for each event.

- 1) For all fireworks display events that occur between February 15 and September 15, launch sites shall be located a minimum of one mile from any federally or state-listed avian species nesting colonies unless the maximum size of shells used in the event is limited to eight (8) inches;
- 2) For all fireworks display events that occur between February 15 and September 15, the duration of the fireworks display shall not exceed twenty minutes;

- 3) For all fireworks display events that occur between February 15 and September 15, fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25%) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display);
- 4) In compliance with the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan (May 2016), a maximum of three fireworks display events can be held, outside of the California least tern nesting season (March 15 through August 31) except 4th of July, which may be allowed if in full regulatory compliance and if nesting colonies are monitored during the event with any impacts reported to the Wildlife Advisory Committee, so they can be addressed. All shows must comply with all applicable water quality and species protection regulations. All shows must be consistent with the policies, goals, and objectives in the Natural Resources Management Plan.
- 5) For all fireworks display events, the fireworks operator shall remove and properly dispose of all wrappings, aluminum, and plastic labels from shells prior to detonation in order to reduce trash and marine pollution that can potentially harm habitats and wildlife;
- 6) The fireworks operator shall remove barges from the launch areas once authorized by pyrotechnic or Fire Marshal, per Code of Regulations, Title 19, following each display event, and the operator shall clean barges in accordance with the RWQCB’s General Permit for Public Display of Fireworks (Order No. R9-2011-0022) to prevent trash and debris from entering the water. Within 3 days after the fireworks display event, the fireworks operator shall notify the District, in writing, of the total weight of the debris and trash recovered pursuant to this requirement.
- 7) The fireworks operator shall commence a comprehensive post-display cleanup immediately following each display in accordance with the RWQCB’s General Permit for Public Display of Fireworks (Order No. R9-2011-0022). Within 3 days after the fireworks display event, the fireworks organizer shall notify the District, in writing, of the total weight of the debris and trash recovered pursuant to this requirement.
- 8) Within five (5) business days after a Fireworks Display Event, the Fireworks Organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the Fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the Fireworks Display Event, the Fireworks Organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the Fireworks Display Event to participate in the next scheduled “Operation Clean Sweep” or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.
- 9) Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located

within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to remind viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures);

- 10) The fireworks operator shall double the numbers of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event;
- 11) For all fireworks display events that occur between February 15 and September 15 with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the Fireworks Organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior;
- 12) For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays;
- 13) For fireworks display events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges are planned to be held in place by tugboats and are not anticipated to require temporary moorings. To the extent practical, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass survey shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass ratio determined by the CEMP (NMFS 2014).

8.0 CONCLUSIONS

This report analyzes the potential impacts of four new fireworks displays in Chula Vista and National City, located in the southern portion of San Diego Bay, on biological resources. Potential direct impacts of fireworks displays on marine habitats, sensitive habitats, and wetlands include increased trash and debris from detonated fireworks, as well as reduced water quality. Further, barges and tugboats that maneuver and hold the barges into place could damage eelgrass. Potential indirect impacts of fireworks displays on marine habitats, sensitive habitats, and wetlands include physical damage, boat traffic, and trash and debris from increased human use during fireworks events.

Eelgrass and marshlands and shallow water unvegetated habitat primarily occur in south San Diego Bay, and impacts to these habitats, particularly eelgrass, could occur during placement of detonation barges in south San Diego Bay. Significant impacts to these sensitive habitats would be reduced to less than significant with cleanup measures, signage, and security patrols employed to encourage visitors to remain in designated viewing areas and to employ safe boating procedures. Further, eelgrass impacts would be avoided through barge placement within deep water channels, and through implementation of pre-event training to make tug operators aware of shallow eelgrass locations and proper low thrust maneuvering adjacent to eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass ratio determined by the CEMP (NMFS 2014).

Potential direct impacts to sensitive avian species (primarily nesting California least tern and western snowy plover) within the project area could include disturbance or alternation of behavior due to sound and light from fireworks displays. This short-term and infrequent disturbance, which does not lead to death or physical harm and which does not increase likelihood of injury, is not considered a significant adverse biological affect. It is not expected that re-location of fireworks displays further from nesting colonies, limiting the display duration, or including a ramp up period would eliminate the short-term disturbance of sensitive avian species. However, implementation of Resource Protection Measures would ensure that potential effects on sensitive species remain less than significant and would lessen impacts further, thus creating a disturbance buffer between unavoidable levels of stress that are associated with fireworks shows, and harm that could result from excessive disturbance levels. Regarding potential direct impacts on marine mammals, the low presence of marine mammals in south San Diego Bay, and the lack of haul-out areas in this region of the Bay limit potential for disturbance to marine mammals associated with noise and light stimuli from fireworks. Therefore, based on the limited presence of marine mammals and lack of haul-out areas in the southern portion of the Bay, the proposed new fireworks display events are not expected to result in disturbances to these species from increased noise and light associated with the displays. Consequently, the noise and light generated by the proposed new fireworks display events would not result in a significant direct impact on marine mammals. Further, trash and debris ingestion concerns are also limited by both a low level of interaction potential between mammals and trash at the fireworks displays and discrimination by mammals. Implementation of Resource Protection Measures for post-fireworks display cleanup would further ensure that these impacts remain less than significant.

Green sea turtles are primarily located in south San Diego Bay. Turtles spend a majority of time in the water and would only be minimally affected by increased levels of noise and light when surfacing to breathe. However, fireworks-generated trash and debris could cause injury to turtles if they mistakenly consume the waste. Implementation of the above Resource Protection Measures would reduce this impact to less than significant. Furthermore, increased boat traffic and trash entering the marine environment could result in indirect impacts to turtles. Use of security patrols before, during, and after fireworks displays would ensure safe boating practices and minimize the potential for turtle strikes. Additionally, cleanup and education measures (described in the above Resource Protection Measures) would minimize effects from boat traffic and human-generated trash. Therefore, direct and indirect impacts on marine reptiles (green sea turtles) would be reduced to a level of less than significant with incorporation of the Resource Protection Measures identified above.

Results of water quality testing following the Big Bay Boom, as well as following the more extensive and long-term SeaWorld fireworks displays, have shown no or limited temporal or spatial relationships in chemical levels, with the majority of constituents tested occurring at concentrations below detectable levels. Further toxicity testing and benthic community studies completed following SeaWorld fireworks displays indicate that the SeaWorld fireworks fallout zone is not degraded in comparison with adjacent reference sites (Amec Foster Wheeler, 2016). For these reasons, direct impacts of reduced water quality on habitats, birds, marine mammals and marine reptiles are not considered to be significant.

It is not anticipated that fireworks-generated debris, light, and noise, will alter the migratory patterns of any species, nor render nesting sites inhospitable. However, as discussed above, noise and light produced by fireworks do disturb California least terns at their nesting colonies. Studies have not shown birds to abandon nests; however, increases in running, flying and alarm calls in response to fireworks have been observed, indicating a moderate level of temporary disturbance. Future displays along the Chula Vista and National City Bayfronts would occur adjacent to migratory stop over habitat and nursery sites for sensitive avian species. As discussed above, disturbance to avian species utilizing nursery sites and migratory stop over habitat that result from fireworks light and noise would be reduced to less than significant with implementation of Resource Protection Measures.

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Appendix G
Water Quality Technical Report

**SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT
FIREWORKS DISPLAY EVENTS PROJECT
WATER QUALITY TECHNICAL REPORT**

Submitted to:



**San Diego Unified Port District
3165 Pacific Highway
San Diego, California 92101**

Submitted by:



**Amec Foster Wheeler Environment & Infrastructure, Inc.
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February 2017

Amec Foster Wheeler Project No. 1615101000

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ACRONYMS AND ABBREVIATIONS

%	percent
§	Section
µg/L	micrograms per liter
AGR	Agricultural supply beneficial use
Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
AQUA	Aquaculture beneficial use
ASBS	Areas of Special Biological Significance
ATSDR	Agency for Toxic Substances and Disease Registry
Basin Plan	Water Quality Control Plan for the San Diego Basin
BIOL	Biological habitats of special significance beneficial use
BMP	best management practice
BRI	benthic response index
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CFR	Code of Federal Regulations
CIO4-	Perchlorate
CMC	criteria maximum concentration
COLD	Cold freshwater habitat beneficial use
COMM	Commercial and sport fishing beneficial use
CTR	California Toxics Rule
CWA	Clean Water Act (also known as the Water Pollution Control Act)
DHS	United States Department of Homeland Security
District	San Diego Unified Port District
DL	detection limit
DOT	California Department of Transportation
EIR	Environmental Impact Report
EST	Estuarine habitats beneficial use
FBMPP	fireworks best management practices plan
General Permit	General National Pollutant Discharge Elimination System Permit for Residual Firework Pollutant Water Discharges to Waters of the United States in the San Diego Region from the Public Display of Fireworks, Order No. R9-2011-0022
GWR	Groundwater recharge beneficial use

ACRONYMS AND ABBREVIATIONS (continued)

HA	hydrologic area
HPD	San Diego Harbor Police Department
HSA	hydrologic sub-area
HU	hydrologic unit
I-	Interstate
IND	Industrial service supply beneficial use
lb.	pounds
LOE	lines of evidence
MADEP	Massachusetts Department of Environmental Protection
MAR	Marine habitat beneficial use
mg/L	milligrams per liter
MIGR	Migration of aquatic organisms beneficial use
MRP	monitoring and reporting
MUN	Municipal and domestic supply beneficial use
NASSCO	National Steel and Shipbuilding Company
NAV	Navigation beneficial use
NOI	notice of intent
NPDES	National Pollutant Discharge Elimination System
NTR	National Toxics Rule
OPA	Oil Pollution Act
Otay	Otay River
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
Porter-Cologne Act	Porter-Cologne Water Quality Act
POW	Hydropower generation beneficial use
PROC	Industrial process supply beneficial use
Pueblo	Pueblo San Diego
RARE	Preservation of rare, threatened, or endangered species beneficial use
REC-1	Contact water recreation beneficial use
REC-2	Non-contact water recreation beneficial use
RP	Responsible Party
RV	recreational vehicle

ACRONYMS AND ABBREVIATIONS (continued)

RWQCB	Regional Water Quality Control Board
SCB	Southern California Bight
SDFD	San Diego Fire Department
Sediment Quality Control Plan	Water Quality Control Plan for Enclosed Bays and Estuaries—Part 1 Sediment Quality
SFM	State Fire Marshal
SHELL	Shellfish harvesting beneficial use
SIP	State Implementation Policy
SPWN	Spawning beneficial use
SR	State Route
Sweetwater	Sweetwater River
SWRCB	State Water Resources Control Board
Technical Report	Water Quality Technical Report for San Diego Bay and Imperial Beach Oceanfront Environmental Impact Report
TMDL	total maximum daily load
U.S.	United States
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
WARM	Warm freshwater habitat beneficial use
WILD	Wildlife habitat beneficial use
WMA	Watershed Management Area

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1.0 INTRODUCTION

Public fireworks displays (also referred to as fireworks shows or events) are conducted throughout the year at various locations within the San Diego region, including areas adjacent to and within the jurisdiction of the San Diego Unified Port District (District), as part of national and community celebrations and other special events. Such displays have occurred on a regular basis for decades. The preferred setting for fireworks display sites is often on or adjacent to urban shorelines to provide public access and to avoid the public safety hazards associated with terrestrial display sites.

Fireworks display events, which occur within and/or adjacent to the District's jurisdiction, include the Big Bay Boom, Fourth of July Imperial Beach Fireworks show, and Fireworks Show Over Glorietta Bay, along with other events sponsored by the District, the District's tenants, and other organizations. Various licensed fireworks operators conduct these events. Typically, fireworks associated with these display events are detonated from piers and/or barges adjacent to and/or on the waters of San Diego Bay and the Pacific Ocean near Imperial Beach. Because the proposed fireworks displays are performed adjacent to or on the waters of San Diego Bay and the Pacific Ocean, these activities pose potential impacts on ambient water quality in the display areas. Potential impacts on surface water quality may result from: (1) activities associated with the setup, deployment, and demobilization of fireworks launch features (e.g., barges and tugs, piers); (2) residual fireworks-related chemical falling on surface waters; and (3) the discharge of paper and other debris items that may fall into surface waters during the launch and detonation operations.

1.1 Document Purpose

This Water Quality Technical Report (Technical Report) evaluates potential water quality impacts associated with existing fireworks displays in San Diego Bay and at the Imperial Beach Oceanfront (Figure 1-1) as well as the four new displays being considered (three in Chula Vista and one in National City). This Technical Report was prepared in support of the document titled San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project Draft Environmental Impact Report (EIR). In addition to evaluating potential water quality impacts from fireworks displays, this Technical Report also presents control measures to help reduce or eliminate potential environmental impacts that may result from these activities.

1.2 General Approach to Analysis


The general approach to prepare this Technical Report was to compile and analyze scientific studies and monitoring reports related to the potential impacts of fireworks on water quality. The information reviewed included the San Diego Regional Water Quality Control Board's (RWQCB) General Permit for Public Display of Fireworks (Order No. R9-2011-0022) (General Permit), results of water quality monitoring conducted from 2013–2016 for the Big Bay Boom fireworks show on San Diego Bay, and the SeaWorld fireworks monitoring reports. Fireworks reports from the RWQCB and documents provided to the District by the Coast Law Group were also reviewed.

Water quality monitoring results from the monitoring programs were compared with applicable state water quality standards (e.g., California Toxics Rule [CTR] and the California Ocean Plan

criteria) to evaluate potential impacts on water quality associated with fireworks displays. The findings of scientific investigations into the potential effects of fireworks on water quality were reviewed to determine whether they provided information applicable to the project.

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, IPC, TomTom
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

 Imperial Beach Oceanfront



Path: Q:\Aqualis\POSD\BRG_Fireworks_EIR\MXD\ReportFigures\Project_Vicinity.mxd, rochelle.petruccielli 10/6/2016

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2.0 PROJECT DESCRIPTION

The proposed project consists of an ordinance establishing a San Diego Unified Port District (District) Code section (District Code section) to govern existing and proposed new fireworks display events that occur within the San Diego Bay and Imperial Beach Oceanfront requiring a discretionary action by the District or that are operated by the District's tenants. Discretionary actions for fireworks display events that may require District approval include, but are not limited to, the following:

- Sponsorship agreement
- Special event permit
- Lease and lease amendments
- Tideland Use and Occupancy Permit
- Right of Entry Permit
- Coastal Act Categorical Determination of Exclusion
- Coastal Development Permit

Fireworks display events that require a discretionary action by the District or are operated by the District's tenants have been occurring on the Fourth of July and at other times throughout the year for more than a decade. The most prominent existing fireworks display events are the annual Fourth of July Big Bay Boom in the San Diego Bay and the Fourth of July Imperial Beach Fireworks Show. Additionally, the Fireworks Show over Glorietta Bay is an existing display whose fireworks organizers may seek to obtain funding from the District in the future, which would require a discretionary action by the District. Existing fireworks display events that occur at other times throughout the year include those associated with the San Diego Symphony's Summer Pops concert series (multiple small displays) and the Our Lady of Rosary Church annual procession, along with the U.S.S. Midway Museum (multiple small displays) and NASSCO displays. Four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts, are anticipated to require a future discretionary action by the District, as discussed further below.

2.1 Project Objectives

The District has identified the following objectives for the proposed project.

1. To develop a District ordinance that establishes policies, performance standards, and other requirements that would be applied to fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach and require a discretionary action by the District or are operated by the District's tenants;
2. To allow for the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants, including on the Fourth of July, providing a popular and region-wide way to celebrate and express civic pride;

3. To allow for the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants in a manner that considers the health, safety, and welfare of people, property, and the environment; and
4. To continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available.

2.2 Project Characteristics

The proposed project consists of an ordinance establishing a District Code section to govern existing and proposed new fireworks display events that occur throughout the year in and around San Diego Bay and the Pacific Ocean near Imperial Beach requiring a discretionary action by the District or that are operated by the District's tenants. These existing fireworks display events include the Fourth of July Big Bay Boom, Fourth of July Imperial Beach Fireworks Show, and Fireworks Show Over Glorietta Bay, along with several other events sponsored by the District, the District's tenants, and other organizations throughout the year. The fireworks display events are organized and/or sponsored by various fireworks organizers, and the fireworks displays are conducted by a number of licensed fireworks operators. Typically, fireworks associated with these displays are launched from piers, flight decks, and/or barges adjacent to and/or within the waters of San Diego Bay and the Pacific Ocean near Imperial Beach. Spectators for each of the fireworks display events typically gather in public areas along District tidelands near the fireworks display event locations, utilizing the surrounding transportation network and public parking facilities. The four new fireworks display events included as part of the proposed project would be similar in duration and magnitude to the existing fireworks display events that occur in and around the San Diego Bay and the Pacific Ocean near Imperial Beach.

2.2.1 Proposed San Diego Unified Port District Code Section

As stated above, the proposed project consists of an ordinance establishing a District Code section (hereinafter referred to as proposed ordinance) to govern existing and proposed new fireworks display events that occur within the San Diego Bay and Imperial Beach Oceanfront requiring a discretionary action by the District or that are operated by the District's tenants. The District Code section will, at a minimum, address the following:

- Permit procedures and requirements for the conduct of fireworks displays
- Compliance with applicable federal, state, and local laws and regulations governing fireworks, including, but not limited to:
 - Code of Federal Regulations
 - Clean Water Act
 - California Health and Safety Code
 - California Code of Regulations
 - California Environmental Quality Act
 - California Coastal Act

- Compliance with applicable federal, state, and local plans and permits governing fireworks, including, but not limited to:
 - Regional Water Quality Control Board's General Permit for Public Display of Fireworks (Order No. R9-2011-0022)
 - District's Climate Action Plan
 - District's Stormwater Management and Discharge Control Code
 - Integrated Natural Resources Management Plan
 - Chula Vista Bayfront Master Plan Natural Resources Management Plan
- Consistency with the features and characteristics of each individual fireworks display event analyzed in the EIR, including, but not limited to:
 - Allowable launch site locations for individual displays
 - Total pounds of fireworks for individual displays
 - Allowable shell size(s) for individual displays
 - Frequency of individual displays
 - Duration of individual displays
- Compliance with the applicable mitigation measures identified in the Mitigation Monitoring and Reporting Program for the proposed project.

2.3 Project Operations

As discussed in Section 4, Environmental Setting, a number of existing fireworks display events occur year-round in and around San Diego Bay and the Pacific Ocean near Imperial Beach. A list of these fireworks display events, and a description of their operational characteristics, is provided in Tables 4-2 and 4-3 respectively, of Section 4, Environmental Setting. These fireworks display events would be subject to the proposed ordinance.

In addition to the existing fireworks display events, the proposed ordinance would govern four proposed new fireworks display events, including three displays along the Chula Vista Bayfront as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July display along the National City Bayfront. The three proposed fireworks display events along the Chula Vista Bayfront include one Fourth of July display and two non-Fourth of July displays. It is anticipated that the District would consider annually whether or not to provide event sponsorship and/or issue a Special Event Permit, Right-of-Entry Permit, Tideland Use and Occupancy Permit, Coastal Development Permit, Coastal Act Categorical Determination of Exclusion, or other similar approval for these proposed new fireworks display events. These proposed new fireworks display events are anticipated to last approximately 3 to 10 minutes for non-Fourth of July displays, and 15 to 20 minutes for Fourth of July displays, and the fireworks are anticipated to be launched from barges within San Diego Bay. These proposed new fireworks display events would also be governed by the proposed ordinance. The proposed new fireworks display events are identified in Table 2-1, below. Figure 2-1 depicts the proposed barge locations along the Chula Vista and National City Bayfronts.

**Table 2-1.
 Proposed New Fireworks Display Events Requiring a Future Discretionary Action by the District**

Time of Year	Approximate Number of Fireworks Display Events	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event (minutes)	Approximate Shell Size (inches)
January–March	1	Chula Vista ¹	3–10	2–8-inch
April–June	-	-	-	-
July–September	2	Chula Vista ² National City ²	15–20	3–8-inch
October–December	1	Chula Vista ¹	3–10	2–8-inch
TOTAL	4⁽³⁾			

Notes:

¹Non-Fourth of July Display (smaller display)

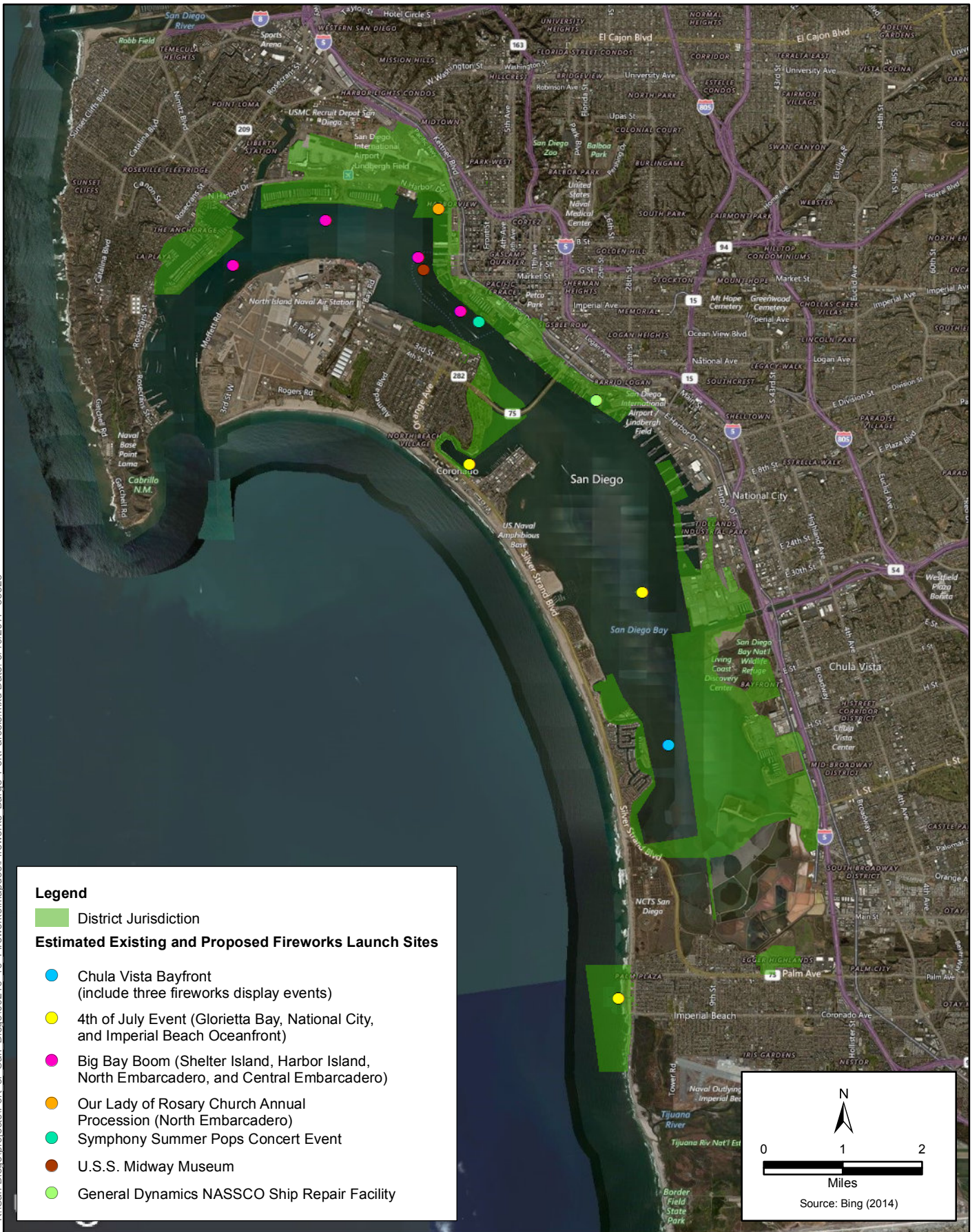
²Fourth of July Display

³Total includes three fireworks display events along the Chula Vista Bayfront allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan.

Table 2-2 summarizes the total pounds of fireworks estimated in the EIR for each proposed new fireworks display event. As discussed in Section 4, Environmental Setting, the total pounds of fireworks for the existing fireworks display events identified in Table 2-2 were determined through a review of the post-event reports submitted in compliance with the Regional Water Quality Control Board’s (RWQCB’s) General Permit for these displays, special event permits obtained from the District’s five member cities, and data collected from the fireworks organizers, fireworks operators, and/or District tenants. Because no fireworks display events currently occur along the National City or Chula Vista Bayfronts, the total pounds of fireworks used to produce these displays is not yet known. However, for the purposes of the EIR, the total pounds of fireworks for the National City and Chula Vista Bayfront Fourth of July fireworks display events is anticipated to be 456 pounds for each display, which is similar to the Fourth of July Imperial Beach Fireworks Show.

For the proposed new non-Fourth of July fireworks display events that would occur along the Chula Vista Bayfront, the total pounds of fireworks was estimated by scaling the duration of the Fourth of July Imperial Beach Fireworks Show (20-minute display) by the number of minutes for each proposed new fireworks display event (assumed to range between 3- and 10-minutes with an average duration of 5-minutes, similar to existing displays operated by the San Diego Symphony during the Summer Pops concert series and U.S.S. Midway Museum), which equals an estimated 114 pounds for each display.

Because the proposed ordinance would require consistency with the features and characteristics of each individual fireworks display event analyzed in the EIR, including, but not limited to, the total pounds of fireworks and durations for individual displays, the values provided in Table 2-2, below, represent the maximum allowable pounds of fireworks and durations for the proposed new displays along the Chula Vista Bayfront and National City Bayfront assumed in the EIR.



Legend

District Jurisdiction

Estimated Existing and Proposed Fireworks Launch Sites

- Chula Vista Bayfront
(include three fireworks display events)
- 4th of July Event (Glorietta Bay, National City,
and Imperial Beach Oceanfront)
- Big Bay Boom (Shelter Island, Harbor Island,
North Embarcadero, and Central Embarcadero)
- Our Lady of Rosary Church Annual
Procession (North Embarcadero)
- Symphony Summer Pops Concert Event
- U.S.S. Midway Museum
- General Dynamics NASSCO Ship Repair Facility

N

0 1 2
Miles

Source: Bing (2014)



Figure 2-1
Estimated Existing and Proposed Fireworks Launch Sites
San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR
66738 Page 1496

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**Table 2-2.
 Summary of Activity Associated with the Proposed Fireworks Display Events**

Fireworks Display Event	Day of Event	# of events	Pounds of Fireworks per Event	Pounds of Fireworks Annually	No. of barges used per event
Chula Vista Bayfront ¹	Fourth of July + 2 other shows	3	456 ¹ 114 ²	684	1
National City Bayfront ¹	Fourth of July	1	456 ¹	456	1

Source: District 2016.

¹ The total pounds of fireworks display events in the Chula Vista Bayfront and National City Bayfront areas on the Fourth of July are anticipated to be 456 pounds, similar to the Fourth of July Imperial Beach Fireworks Show.

² The total pounds of non-Fourth of July fireworks events estimated by scaling the Fourth of July Imperial Beach Fireworks Show (20-minute event) by the number of minutes for each fireworks display event (assumed to be an average of 5-minute events), which equals an estimated 114 pounds each.

Both existing and proposed new fireworks display events involve coordination between several agencies, organizations, and businesses, as detailed below. The definitions below pertain to terminology used in the description of fireworks display events in the following paragraphs and throughout this technical report.

- *Sponsor* generally refers to an individual, agency, committee, or other organization that contributes funds, services, or other similar goods to a *fireworks organizer* in support of a fireworks display event. The District has historically been a *sponsor* of several of the fireworks display events described below.
- *Fireworks organizer* generally refers to the individual, committee, organization, or agency proposing to conduct a fireworks display event. The *fireworks organizer* is typically responsible for obtaining all required funding, entitlements, and approvals for a fireworks display event, as well as contracting with a *fireworks operator* to produce the fireworks display event. Historically, the District has entered into agreements with *fireworks organizers* in order to *sponsor* several of the fireworks display events described below.
- *Fireworks operator* generally refers to the licensed fireworks company producing a fireworks display event. A *fireworks operator* is typically responsible for supplying, setting up, and detonating the pyrotechnic devices associated with a fireworks display event. The *fireworks operator* is also typically under contract with the *fireworks organizer* to produce the fireworks display event. Historically, the District has not had a direct relationship with the *fireworks operator*.

All existing and proposed new fireworks display events that require either a discretionary action by the District or that are operated by the District's tenants would be subject to all applicable federal, state, and local laws and regulations governing fireworks as well as any additional requirements set forth in the proposed ordinance.

2.3.1 Description of Pyrotechnic Devices

Fireworks are a class of low-explosive pyrotechnic devices used for aesthetic or entertainment purposes. Fireworks devices take many forms to produce four primary effects: noise, light, smoke, and floating materials (e.g., confetti). Fireworks may be designed to burn with flames and sparks of various colors, including red, orange, yellow, green, blue, purple, and silver.

Professional pyrotechnic devices used in fireworks display events can be grouped into three general categories: (1) aerial shells (i.e., paper and cardboard spheres or cylinders filled with pyrotechnic materials), (2) low-level comet and multi-shot devices, such as roman candles, and (3) set piece displays mounted on the ground.

2.3.1.1 Aerial Fireworks/Shells

Aerial fireworks typically either provide their own propulsion (e.g., a skyrocket using a solid rocket motor) or are launched into the air in an aerial shell by a mortar using a black powder lifting charge or propellant. Most of the incendiary elements and shell casings burn up in the atmosphere; however, portions of the casings and some internal structural components and chemical residue fall back to the ground and/or receiving water bodies. The aerial shell typically consists of a cylinder or spherical cartridge, usually constructed of paper, plastic, or cardboard, and may include some plastic or paper internal components used to compartmentalize chemicals within the shell. The shell casing contains a burst charge, pyrotechnic material that emits prescribed colors when detonated, a fuse, and a black powder lift charge.

Aerial shells are often combined to make a great variety of sparkling shapes, often variously colored, when detonated. Colors in fireworks are usually generated by pyrotechnic stars (usually just called stars), which produce intense light when ignited. Stars contain five basic types of ingredients.

- A fuel, which allows the star to burn
- An oxidizer, which usually produces oxygen to support combustion of the fuel
- Color-producing chemicals
- A binder, which holds the pellet together
- A chlorine donor, which intensifies the color of the flame (sometimes the oxidizer can serve this purpose)

Attached to the bottom of an aerial shell is a lift charge of black powder. The lift charge and shell are placed at the bottom of a mortar buried in earth/sand or affixed to a wooden rack. When a fuse attached to the lift charge is ignited with an electric charge or heat source, the lift charge explodes and propels the shell through the mortar tube and into the air to a height determined by the amount of powder in the lift charge and the weight of the shell. As the shell travels skyward, a time-delayed secondary fuse eventually ignites the burst charge within the shell at peak altitude. The burst charge detonates, igniting and scattering the stars, which may, in turn, have small secondary explosions. Shells can be launched one at a time or in a barrage of simultaneous or quick-succession launches and are typically designed to detonate between 200 and 1,000 feet in the air.

As identified in Table 2-1 and 4-2, aerial shells range in diameter from 2 inches to 10 inches for existing and proposed new fireworks display events within San Diego Bay and the Imperial Beach Oceanfront. The weight, height of the burst, burst radius, and burst delay of a firework is dependent upon the size of the shells (i.e., diameter of the shell). As the shell size increases, these characteristics also increase (Poulton and Kosanke, 1995).

2.3.1.2 Low-Level Fireworks Devices

Low-level fireworks devices consist of stars packed linearly within a tube. When ignited, the stars exit the tube in succession, producing a fountain effect of single- or multi-colored light as the stars incinerate through the course of their flight. Typically, the stars burn rather than explode, thus producing a ball or trail of sparkling light to a prescribed altitude, where they simply extinguish. Sometimes they terminate with a small explosion similar to a firecracker. Other low-level devices emit a projected hail of colored sparks or perform erratic, low-level flight while emitting a high-pitched whistle. Some emit a pulsing light pattern or crackling or popping sound effects. In general, low-level launch devices and encasements remain on the ground or attached to a fixed structure and can be removed upon completion of the fireworks display event. Common low-level devices are multi-shot devices, mines, comets, meteors, candles, strobe pots, and gerbs. They are designed to produce effects between 0 and 200 feet in the air.

2.3.1.3 Set Piece/Ground-Level Fireworks

Set piece or ground-level fireworks are primarily static in nature and remain close to the ground. They are usually attached to a framework crafted in the design of a logo or familiar shape, illuminated by pyrotechnic devices such as flares, sparklers, and strobes. These fireworks typically employ bright flares and sparkling effects and may also emit limited sound effects such as cracking, popping, or whistling. Set pieces usually are used in concert with low-level effects or an aerial show and sometimes act as a centerpiece for the fireworks display event. They may have some moving parts, but typically do not launch devices into the air. Set piece displays typically are designed to produce effects between 0 and 50 feet in the air.

2.3.2 Fireworks Chemical Constituents

Typical fireworks constituents include, but are not limited to, aluminum, antimony, barium, carbon, calcium, chlorine, cesium, copper, iron, potassium, lithium, magnesium, oxidizers (including nitrates, chlorates, and perchlorates), phosphorus, sodium sulfur, strontium, titanium, and zinc. The chemical constituents burn at high temperatures when a firework is detonated, which promotes incineration. The chemical constituents within the fireworks are scattered by the burst charge, which separates them from the fireworks casing and internal shell components. Combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris, including paper, cardboard, cotton, metal, wires, fuses, and other similar components. A list of chemicals typically used in fireworks for fuels, oxidizers, binding agents, coloration effects, and sound effects is provided in Table 3-3, below. Based on literature review, the total net weight of non-chemical pyrotechnic materials (i.e., debris) in a firework shell is typically approximately one-half their gross weight (Poulton and Kosanke, 1995).

**Table 2-3.
 Fireworks Chemical Constituents**

Symbol	Name	Purpose in Fireworks Usage
Al	Aluminum	Aluminum is used to produce silver and white flames and sparks. It is a common component of sparklers.
Ba	Barium	Barium is used to create green colors. It can also help stabilize other volatile elements.
C	Carbon	Carbon is one of the main components of black powder, which is used as a propellant. Carbon provides the fuel for a firework. Common forms include carbon black, sugar, or starch.
Ca	Calcium	Calcium is used to deepen colors. Calcium salts produce orange fireworks.
Cl	Chlorine	Chlorine is an important component of many oxidizers. Several of the metal salts that produce colors contain chlorine.
Cs	Cesium	Cesium compounds produce indigo color.
Cu	Copper	Copper compounds produce blue colors.
Fe	Iron	Iron is used to produce sparks. The heat of the metal determines the color of the sparks.
K	Potassium	Potassium compounds help to oxidize fireworks mixtures. Potassium nitrate, potassium chlorate, and potassium perchlorate are all-important oxidizers. The potassium content can impart a violet color to the sparks.
Li	Lithium	Lithium is a metal used to impart a red color. Lithium carbonate, in particular, is a common colorant.
Mg	Magnesium	Magnesium burns a very bright white, so it is used to add white sparks or improve the overall brilliance of a firework.
Na	Sodium	Sodium imparts a gold or yellow color; however, the color is often so bright that it frequently masks less intense colors.
O	Oxygen	Fireworks include oxidizers, which produce oxygen to promote burning. Oxidizers usually are nitrates, chlorates, or perchlorates. Sometimes the same substance is used to provide oxygen and color.
P	Phosphorus	Phosphorus burns spontaneously in air and is also responsible for some glow-in-the-dark effects. It may be a component of a firework's fuel.
S	Sulfur	Sulfur is a component of black powder and, as such, it is found in a firework's propellant/fuel.
Sb	Antimony	Antimony is used to create glitter effects.
Sr	Strontium	Strontium salts impart a red color. Strontium compounds are also important for stabilizing fireworks mixtures.
Ti	Titanium	Titanium metal can be burned as powder or flakes to produce silver sparks.
Zn	Zinc	Zinc is a bluish-white metal that is used to create smoke effects for fireworks and other pyrotechnic devices.

Source: RWQCB 2011

3.0 REGULATORY SETTING

Management of water resources and water quality is regulated by both state and federal laws and regulations. These regulations are intended to mitigate the risk of degrading water quality. In addition to providing a regulatory framework for this project, these regulations describe monitoring and reporting programs to preserve water resources and quality. This section describes the federal and state laws and regulations that are applicable to the project.

3.1 Federal Policies and Regulations

3.1.1 Clean Water Act

The federal Clean Water Act (CWA) (also known as the Water Pollution Control Act) is the cornerstone of surface water quality protection in the U.S. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff (33 United States Code 1251 et seq.). These tools are used to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters (United States Environmental Protection Agency [USEPA], 2014a).

According to the CWA, pollutants can be discharged into water only if authorized by a National Pollutant Discharge Elimination System (NPDES) permit (USEPA, 2014b). Originally, the NPDES permit focused on reducing pollutants from discharges from industrial process wastewater and municipal sewage treatment plants. In 1987, the CWA was amended to require the USEPA to regulate stormwater discharges with the NPDES stormwater permits. The NPDES permit program is administered by authorized states, including California.

Pertinent sections of the CWA are:

- *Section 401*. Under Section 401, every applicant for a federal permit or license for any activity that may result in a discharge to a water body must obtain state water quality certification that the proposed activity will comply with state water quality standards.
- *Section 303(d)*. Section 303(d) of the CWA requires identification and listing of those water bodies with impaired water quality. Once a water body has been deemed impaired, a total maximum daily load (TMDL) must be developed for each impairing water quality constituent. A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards (often including factor of safety that limits the total load of pollutants to a level well below what could cause an exceedance of an applicable water quality standard). Once established, the TMDL is allocated among current and future dischargers that discharge into the water body. The receiving water for the project area, as described in greater detail below, is a Section 303(d)-listed water body and is considered impaired for specific constituents.

3.1.2 Clean Water Act, Section 303, List of Water Quality Limited Segments

The State Water Resources Control Board (SWRCB) approved the 2010 Integrated Report (CWA Section 303(d) List/305(b) Report) on August 4, 2010 (SWRCB, 2014a). On November 12, 2010, the USEPA approved the 2010 California 303(d) List of Water Quality Limited Segments.

The following is summary of San Diego Bay and Pacific Ocean Section 303(d)-listed locations for sediment chemistry, water chemistry, benthic community effects, or sediment toxicity impairments only for areas near fireworks displays. The bacteria impairments listed below are not a constituent of concern for fireworks events and are provided for informational purposes only:

- San Diego Bay: 303(d)-listed for impaired COMM (Polychlorinated biphenyls (PCBs));
- San Diego Bay Shoreline, North of 24th Street Marine Terminal: 303(d)-listed for impaired MAR benthic community effects and sediment toxicity);
- San Diego Bay Shoreline, Seventh Street Channel: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity);
- San Diego Bay Shoreline, at Americas Cup Harbor: 303(d)-listed for impaired Estuarine Habitat beneficial use (EST) (copper);
- San Diego Bay Shoreline, near Submarine Base: 303(d)-listed for impaired MAR (benthic community effects, sediment toxicity, and toxicity);
- San Diego Bay, Shelter Island Yacht Basin: 303(d)-listed for impaired EST (dissolved copper);
- San Diego Bay Shoreline, 32nd St. San Diego Naval Station: 303(d) listed for impaired (benthic community effects and sediment toxicity);
- San Diego Bay Shoreline, at Harbor Island (East Basin): 303(d) listed for EST (copper);
- San Diego Bay Shoreline, at Harbor Island (West Basin): 303(d)-listed for impaired EST (copper);
- San Diego Bay Shoreline, at Marriott Marina: 303(d)-listed for impaired EST (copper);
- San Diego Bay Shoreline, at Spanish Landing: 303(d)-listed for impaired REC-1 and SHELL (total coliform);
- San Diego Bay Shoreline, Between Sampson and 28th Streets: 303(d)-listed for impaired MAR (copper and PAHs), COMM (mercury and PCBs), and WARM (zinc);
- San Diego Bay Shoreline, Downtown Anchorage: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity);
- San Diego Bay Shoreline, near Chollas Creek: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity);
- San Diego Bay Shoreline, near Coronado Bridge: 303(d)-listed for impaired MAR (benthic community effects and sediment toxicity);
- San Diego Bay Shoreline, near Switzer Creek: 303(d)-listed for impaired MAR (chlordane and PAHs);

- San Diego Bay Shoreline, Vicinity of B St and Broadway Piers: 303(d)-listed for impaired MAR (Benthic community effects and sediment toxicity) and REC 1 and SHELL (total coliform);
- San Diego Bay Shoreline, Chula Vista Marina: 303(d)-listed for impaired EST (copper);
- Pacific Ocean Shoreline, Imperial Beach Pier: 303(d)-listed for impaired REC 1 (fecal coliform and total coliform) and COMM (PCBs¹);
- San Diego Bay Shoreline, at Coronado Cays: 303(d)-listed for impaired EST (copper); and
- San Diego Bay Shoreline, at Glorietta Bay: 303(d)-listed for impaired EST (copper).

3.1.3 Oil Pollution Act

The Oil Pollution Act (OPA) was signed into law in August 1990, largely in response to rising public concern following the Exxon Valdez oil spill in Prince William Sound, Alaska. The OPA improved the nation's ability to prevent and respond to such incidents by expanding the federal government's ability to respond with funding and other resources. The OPA also created the national Oil Spill Liability Trust Fund, which funds responses to spill incidents.

In addition, the OPA provided new requirements for contingency planning, by both government and industry; it expanded the National Oil and Hazardous Substances Pollution Contingency Plan in a three-tiered approach: (1) the federal government must direct all public and private responses for certain types of spill events; (2) area committees (composed of federal, state, and local government officials) must develop detailed and location-specific area contingency plans; and (3) owners or operators of vessels and certain facilities that pose a serious threat to the environment must prepare their own facility response plans.

The OPA also increased penalties for regulatory noncompliance, broadened the response and enforcement authorities of the federal government, and preserved state authority to establish laws governing oil spill prevention and response.

3.1.4 National Toxics Rule and California Toxics Rule

The USEPA adopted the National Toxics Rule (NTR) on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. Approximately 40 NTR criteria are also applied in California.

On May 18, 2000, the USEPA adopted the California Toxics Rule (CTR). This rule prescribed new toxics criteria for California, incorporated the previously adopted NTR criteria that were applicable in the state, and specified water quality criteria for priority pollutants. The CTR was amended on February 13, 2001.

¹ This listing (Decision ID 5535) is based upon PCB levels in fish tissue. One station was sampled on Imperial Beach Pier in either March 1999 or April 2000. The tissue sample result (collected from a perch) exceeded the OEHHA Screening Value of 20 ng/g (wet weight).

3.1.5 Endangered Species Act

The Endangered Species Act does not authorize any action that results in the taking of a threatened or endangered species or any action that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code Sections 2050 to 2097) or the Federal Endangered Species Act (16 United States Code Sections 1531 to 1544). This order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the Endangered Species Act.

3.1.6 United States Coast Guard Marine Safety Program

The USCG, pursuant to 33 Code of Federal Regulations (CFR) 100, implements the Marine Safety Program, which is designed to ensure the safety of vessels and recreational boaters on navigable U.S. waters during fireworks display events. The USCG issues marine event permits to sponsors of public fireworks display events that have the potential to endanger marine safety. An application for approval of marine event must be submitted to the USCG for approval no later than 135 days prior to the event if the applicant does not meet criteria specified in 33 CFR 100.15(c), or 60 days prior to the event if the applicant does meet the criteria. After approving plans for a fireworks display event, the USCG is authorized to promulgate special local regulations as necessary to ensure public safety on navigable waters immediately prior to, during, and immediately after the approved fireworks event. Such regulations may include a restriction on or control of the movement of vessels through a specified fireworks display area.

3.1.7 Department of Homeland Security Chemical Facility Anti-Terrorism Standards

On October 4, 2006, the U.S. Department of Homeland Security (DHS) Appropriations Act of 2007 was signed into law. Under Section 550 of the Appropriations Act of 2007, the DHS finalized chemical facility anti-terrorism standards on November 2, 2007 (Perry et al., 2007). Facilities possessing any of the 335 chemicals of interest in quantities at or above screening threshold quantities must complete an electronic “top screen” questionnaire that determines whether further assessments and security plans should be developed to ensure safety. The information should allow the DHS to determine the potential for and possible consequences of a terrorist attack, and to assess the possible risks if dangerous chemicals are stolen. Pyrotechnic technicians and businesses act as chemical storage facilities and use and store some of the chemicals listed in Part 27 of the standards, and so are subject to DHS review. Operators may not use dangerous or explosive chemicals without DHS review and consideration of safety.

3.2 State and Local Policies and Regulations

3.2.1 National Pollutant Discharge Elimination System Permit (General Permit)

The General Permit covers the point-source discharge of residual firework pollutant waste to surface waters, and requires users of fireworks to obtain coverage under the General Permit prior to the public display of fireworks. A copy of the General Permit is provided as Appendix A

to this document; the notice of intent (NOI) and post-event reporting forms are included as Appendix B.

The CWA Section 301(a) broadly prohibits the discharge of any pollutant to waters of the U.S., except in compliance with an NPDES permit. Fireworks residue waste discharged into surface waters constitutes discharge of a pollutant from a point source within the meaning of the CWA. Therefore, coverage under an NPDES permit is required before residual firework pollutant wastes can be lawfully discharged.

The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board (RWQCB), San Diego Region, have classified these types of discharges as minor discharges. In accordance with Section 2200, Title 23 of the California Code of Regulations, discharges regulated by the Order are determined to be Category 3. The threat to water quality and complexity of the discharge is determined to be Category 3C².

Section 122.48 of the NPDES permit program requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code Sections 13267 and 13383 authorize regional water boards to require technical and monitoring reports. The General Permit provides monitoring and reporting requirements to implement federal and state requirements.

The General Permit is valid until May 31, 2016³. Following the expiration date, the provisions set forth will be re-evaluated and re-established or updated as needed. Current Best Management Practices (BMPs) are outlined in the General Permit for two types of dischargers⁴—Category 1 and Category 2. Discharger categories and monitoring requirements are discussed in more detail in Appendix A.

SeaWorld is currently the only Category 1 discharger. SeaWorld is required to conduct a higher level of monitoring and reporting than Category 2 dischargers because of the high number of events they conduct each year. Category 2 entities are all other dischargers of fireworks of any net explosive weight from a single event or multiple events to any Surface Water of the U.S. within the San Diego Region. The primary focus of this technical report is Category 2 dischargers only.

Category 1 Dischargers

All Category 1 dischargers monitor the receiving water body to assess compliance with receiving water limits. The compliance monitoring may be performed independently by individual dischargers, collaboratively through participation in a coalition that monitors San Diego Bay or

² A Category 3C discharge is defined as “Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses...” and “...dischargers having no waste treatment systems or that must comply with best management practices...” (California Code of Regulations, TITLE 23. Division 3. Chapter 9. Waste Discharge Reports and Requirements, Article 1. Fees.

³ Dischargers covered under this Order at the time of expiration will continue to be covered until coverage becomes effective under a reissued permit. Upon reissuance of this Order by the RWQCB, dischargers may need to seek re-enrollment under the revised Order.

⁴ According to the General Permit, it is the duty of the fireworks organizer (i.e. discharger) to submit an NOI and obtain coverage under this Order.

Mission Bay, or both, as determined by the RWQCB. Monitoring of both sediment and water quality is required, as outlined in the General Permit Attachment E Section IX.C. Water quality testing includes chemistry analysis of (at a minimum) conventional nutrients (including total phosphorus and perchlorate), semivolatile organic compounds (bis-phthalate), and metals (total and dissolved). Sediment testing includes chemical analysis, toxicity testing, and assessment of benthic community condition, no less than once every three years.

Category 2 Dischargers

Category 2 dischargers are not required to perform monitoring unless otherwise determined by the RWQCB, based on the considerations outlined in General Permit Attachment E Section IX.B.2.

3.2.2 Porter-Cologne Water Quality Act

In 1969, the California Legislature enacted the Porter-Cologne Water Quality Act (Porter-Cologne Act) to preserve, enhance, and restore the quality of the state's water resources (SWRCB, 2014b). This act establishes water quality policies, enforces water quality standards for surface and ground water, and regulates discharges of pollutants. The Porter-Cologne Act also established the SWRCB and nine RWQCBs as the principal state agencies with responsibility for controlling water quality in California.

3.2.3 State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB and RWQCBs are responsible for ensuring implementation and compliance with the provisions of the CWA and the Porter-Cologne Act. The SWRCB has the ultimate authority over state water rights and water quality policy; the nine RWQCBs oversee water quality on a day-to-day basis at the local and regional levels. The project area is in RWQCB Region 9.

3.2.4 California Regional Water Quality Control Board, San Diego Region

The RWQCB regulates wastewater discharges to surface water (rivers, ocean, etc.) and to groundwater (via land). These discharges include stormwater discharges from construction, industrial, and municipal activities; discharges from irrigated agriculture; dredge and fill discharges; the alteration of a federal water body under the Section 401 certification program; and several other activities with practices that could degrade water quality.

3.2.5 California Ocean Plan

Section 13170.2 of the California Water Code directs the SWRCB to formulate and adopt a water quality control plan for ocean waters of California. The SWRCB first adopted this plan (known as the California Ocean Plan) in 1972 (SWRCB, 2012). The California Water Code also requires a review of the California Ocean Plan at least every three years to guarantee that current standards are adequate and are not allowing degradation of indigenous marine species or posing a threat to human health. The amendments to the California Ocean Plan are reviewed and approved by the USEPA under the CWA.

The California Ocean Plan established water quality objectives and beneficial uses for California's ocean waters and is the basis of regulation of wastes discharged into the state's coastal waters. The plan applies to discharges from both point and nonpoint sources. The plan also identifies beneficial uses of ocean waters of the state to be protected, as summarized in Table 3-1. The SWRCB and the six coastal RWQCBs implement and interpret the California Ocean Plan.

**Table 3-1.
 Ocean Plan Beneficial Uses**

Discharge Point	Receiving Water	Beneficial Uses
Various	Pacific Ocean	Industrial water supply; water contact and noncontact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

Section III.E.1 of the California Ocean Plan provides that waste shall not be discharged to ASBS. There are no ASBSs in the project area.

3.2.6 Water Quality Control Plan for the San Diego Basin

RWQCBs are required to develop and periodically update a water quality control plan (also known as a basin plan) (RWQCB, 2011a). A water quality control plan establishes water quality objectives for the ground and surface waters of the region and includes an implementation plan describing the actions by the RWQCB and others that are needed to achieve and maintain these water quality objectives. The project area falls under the Water Quality Control Plan for the San Diego Basin.

As defined in the Porter-Cologne Act, water quality objectives are the established limits or levels of chemical constituents allowable in water (RWQCB, 2011a). The designation of water quality objectives must satisfy all of the applicable requirements of the Porter-Cologne Act and the CWA. Through water quality objectives, the RWQCB provides for the reasonable protection of beneficial uses, considering existing water quality, environmental, and economic factors. Beneficial uses applicable to the receiving waters within the San Diego region are listed in Table 3-2.

3.2.7 RWQCB Municipal Stormwater Permit (Order No. R9-2013-0001)

The Municipal Stormwater Permit (Order No. R9-2013-0001 as amended by Order Nos. R9-2015-001 and R9-2015-0100) is an NPDES permit issued that requires the owners and operators of municipal separate storm sewer systems (MS4s) within the San Diego Region to implement management programs to limit discharges of pollutants and non-stormwater discharges to and from their MS4 from all phases of development. The Municipal Stormwater Permit requires the District and other "copermittees" to develop watershed based Water Quality Improvement Plans (WQIPs). The Municipal Stormwater Permit emphasizes watershed program planning and program outcomes. The intent of the Permit is to enable each jurisdiction to focus its resources and efforts to:

- Reduce pollutants in stormwater discharges from its MS4;
- Effectively prohibit non-stormwater discharges to its MS4; and
- Achieve the interim and final [Water Quality Improvement Plan] numeric goals.

**Table 3-2.
 Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use
Various	Coastal Waters (Pacific Ocean, Enclosed Bays and Estuaries, Harbors, and Lagoons)	Industrial service supply (IND) Navigation (NAV) Contact water recreation (REC-1) Non-contact water recreation (REC-2) Commercial and sport fishing (COMM) Biological habitats of special significance (BIOL) Estuarine habitats (EST) Wildlife habitat (WILD) Preservation of rare, threatened, or endangered species (RARE) Marine habitat (MAR) Aquaculture (AQUA) Migration of aquatic organisms (MIGR) Spawning (SPWN) Shellfish harvesting (SHELL)
Various	Inland Surface Waters	Municipal and domestic supply (MUN) Agricultural supply (AGR) Industrial service supply (IND) Industrial process supply (PROC) Groundwater recharge (GWR) Hydropower generation (POW) Contact water recreation (REC-1) Non- contact water recreation (REC-2) Biological habitats of special significance (BIOL) Warm freshwater habitat (WARM) Cold freshwater habitat (COLD) Wildlife habitat (WILD) Spawning (SPWN) Preservation of rare, threatened, or endangered species (RARE)

3.2.8 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires state and local agencies to identify the significant environmental impacts of their actions and, if feasible, to avoid or mitigate those impacts (District, 1997). Modeled after the National Environmental Policy Act, CEQA applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project." A project is an activity undertaken by a public agency or a private activity that may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment, and so must receive discretionary approval (approval of the requested permit by an authorized governmental agency).

Most proposals for physical development in California are subject to the provisions of CEQA, as are many governmental decisions that do not immediately result in physical development (such as adoption of a general or community plan). Every development project that requires a discretionary governmental approval will require at least some environmental review pursuant to CEQA, unless an exemption applies.

The required environmental review imposes both procedural and substantive conditions. At a minimum, an initial review of the project and its environmental effects must be conducted. Depending on the potential effects, a further, more substantial, review may be conducted in the form of an EIR. A project may not be approved as submitted if feasible alternatives or mitigation measures are able to substantially lessen the significant environmental effects of the project.

CEQA Guidelines are the regulations that explain and interpret the law for both the public agencies that administer CEQA and for the public. They are found in the CCR Title 14, Chapter 3. The Guidelines provide objectives, criteria, and procedures for the orderly evaluation of projects and the preparation of EIRs, negative declarations, and mitigated negative declarations by public agencies. The fundamental purpose of the Guidelines is to make the CEQA process understandable to those who administer it, to those subject to it, and those for whose benefit it exists. To that end, the Guidelines are more than mere regulations that implement CEQA because they incorporate and interpret both the statutory mandates of CEQA and the principles advanced by judicial decisions.

3.2.9 State Implementation Policy

The State Implementation Policy (SIP) applies to discharges of toxic pollutants into the inland surface waters, enclosed bays, and estuaries of California subject to regulation under the State's Porter-Cologne Water Quality Control Act and the federal Clean Water Act. Such regulation may occur through the issuance of NPDES permits or other relevant regulatory approaches. The SIP establishes a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency. On March 2, 2000, the SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. The RWQCB's General Permit implements the requirements of the SIP with regard to potential water-quality-related impacts associated with fireworks displays over or near water bodies.

3.2.10 Sediment Quality Objectives

On August 25, 2009, the SWRCB adopted the Water Quality Control Plan for Enclosed Bays and Estuaries—Part 1 Sediment Quality (Sediment Quality Control Plan) (SWRCB, 2009). This plan establishes: (1) narrative sediment quality objectives for benthic community protection from exposure to contaminants in sediment and to protect human health; and (2) a program of implementation using a multiple lines of evidence approach (LOE) to interpret the narrative sediment quality objectives.

3.2.11 Office of the California State Fire Marshal

The California's Fireworks Law, which was passed in 1938, established the Office of the State Fire Marshal (SFM) as the fireworks classification authority in state. The State's Explosives Law authorizes the California SFM to adopt regulations for the safe use, handling, storage, and transportation of fireworks in California. Fireworks are classified through laboratory analysis, field examinations, and test firing of fireworks items. SFM requires licensing of all pyrotechnic operators, manufacturers, importer-exporters, wholesalers, retailers, and public display companies. Pyrotechnic operators who discharge fireworks at public displays or launch high-powered and experimental rockets must also pass a written examination and provide proof of experience. The laws and regulations governing the transportation, use and storage of fireworks in California are contained in:

1. State Fireworks Law, California Health and Safety Code, Section 12500–12728;
2. State Fireworks Regulations, California CCR Title 19, Chapter 6;
3. Storage, CCR Title 27, Part 55, Subpart K; and
4. Hazardous Materials Transportation, California CCR Title 13.

3.2.12 California State Department of Toxic Substances Control

In light of the risks to public health and the environment posed by perchlorate releases, the California Legislature adopted the Perchlorate Contamination Prevention Act of 2003, amending Chapter 6.5 of Division 20 of the Health and Safety Code and requiring the California Department of Toxic Substances Control to adopt regulations specifying BMPs for perchlorate and perchlorate-containing substances. The perchlorate BMP regulations were adopted on December 31, 2005, and are contained in CCR Title 22, Social Security Division 4.5, Environmental Health Standards for the Management of Hazardous Waste Chapter 33, Best Management Practices for Perchlorate Materials Article 1, Section (§) 67384.1 – § 67384.11. In § 67384.8 (c), Special Best Management Practices for Flares and Pyrotechnic Perchlorate Materials, these regulations provide that: “Within twenty-four (24) hours of a public display of fireworks or the use of dangerous fireworks, the pyrotechnics operator, in addition to complying with CCR Title 19, Section 1003, shall, to the extent practical, collect any stars and un-ignited pyrotechnic material found during the required inspection of the entire firing range.”

4.0 ENVIRONMENTAL SETTING

The project area includes various locations adjacent to and on the waters of San Diego Bay and the Pacific Ocean within and/or adjacent to the District's jurisdiction in its five member cities (San Diego, Coronado, National City, Chula Vista, and Imperial Beach), as described in this section. Figure 2-1 shows the locations of the fireworks launch sites in the Project Area. This section also presents a description of the existing fireworks displays within the environmental setting of the EIR.

4.1 San Diego Bay Watershed

The San Diego Bay Watershed Management Area (WMA) encompasses a 444-square-mile area (approximately 284,500 acres) that extends eastward from San Diego Bay for more than 50 miles to the Laguna Mountains (San Diego Bay Watershed Responsible Parties, 2016). The WMA ranges in elevation from sea level at San Diego Bay to a maximum elevation of approximately 6,000 feet above sea level at the eastern boundary. Most of the WMA land area generally lies north of the Tijuana River WMA, south of the San Diego River WMA, west of the Anza Borrego WMA, and east of the Pacific Ocean. The San Diego Regional Water Quality Control Board (RWQCB)-prepared Water Quality Control Plan for the San Diego Basin (RWQCB, 1994) (Basin Plan) defines the San Diego Bay WMA as containing three hydrologic units (HUs): (1) the Pueblo San Diego (Pueblo) HU; (2) the Sweetwater River (Sweetwater) HU; and (3) the Otay River (Otay) HU.

The source of most freshwater input to San Diego Bay is surface runoff from urban areas and intermittent flow from rivers and creeks during rain events. Dams and extensive use of groundwater over the past century in the Sweetwater and Otay Rivers have significantly reduced the input from these rivers to the Bay.

4.1.1 Pueblo San Diego Hydrologic Unit (908)

The Pueblo HU encompasses approximately 60 square miles and has no central stream system. The Basin Plan identifies the Pueblo HU as the smallest of the three San Diego Bay HUs, covering approximately 38,000 acres. It is the most developed and most densely populated watershed in the San Diego Bay WMA. It contains three hydrologic areas (HAs): Point Loma (908.1), San Diego Mesa (908.2), and National City (908.3). Major water features are Chollas Creek, Paleta Creek, and San Diego Bay. Most of the water from the Pueblo HU drains to San Diego Bay, although a portion of the Point Loma HA drains directly to the Pacific Ocean.

The dominant land uses within the HAs are as follows (San Diego Bay Watershed Copermittees, 2008):

- Point Loma HA (908.1)—Within this HA, residential uses make up approximately 32 percent (%), followed by vacant/undeveloped land at 19%, transportation uses at 16%, and military uses at 14%. The remaining 19% consists primarily of commercial businesses, public facilities, open space/preserves, and schools.
- San Diego Mesa HA (908.2)—Within this HA, residential uses comprise approximately 40%, followed by transportation uses at 29%, commercial/office businesses at approximately 8%, industrial businesses at 5%, and open space/preserves at approximately 6% of the HA. The remaining 12% consists of multiple uses, including public facilities, schools, and parks.
- National City HA (908.3)—Within this HA, residential uses make up 46%, followed by transportation uses at 23%, military uses at 9%, schools at 5%, commercial/office businesses at 4%, and industrial business at 3%. The remaining 10% consists of multiple uses, including parks and open space/preserves.

4.1.2 Sweetwater River Hydrologic Unit (909)

The Sweetwater HU is the largest of the three San Diego Bay HUs, encompassing over 148,000 acres. Three main drainage areas are included within the Sweetwater HU: Lower Sweetwater HA (Hydrologic Sub-Areas [HSAs] 909.11, 909.12, and 908.32)⁵; Middle Sweetwater HA (909.2); and Upper Sweetwater HA (909.3). It has four major waterbodies: Sweetwater River, Sweetwater Reservoir, Loveland Reservoir, and San Diego Bay. Portions of the San Diego Bay National Wildlife Refuges, including the Sweetwater Marsh, are in the Sweetwater HU. Much of this watershed is occupied by undeveloped lands in the Cleveland National Forest, Cuyamaca Rancho State Park, and the unincorporated communities of Pine Valley, Descanso, Alpine, and the Viejas Indian Reservation. The Cleveland National Forest, Cuyamaca Rancho State Park, and Viejas Indian Reservation are regulated separately and the Responsible Parties (RPs)⁶ do not have authority to require their participation or to implement Municipal Permit requirements.

The dominant land uses within the HAs are as follows (San Diego Bay Watershed Copermittees, 2008):

- Lower Sweetwater HA (909.1): Within this HA, residential uses comprise approximately 44%, followed by transportation uses at 18% and open space/preserves at 13%. The remaining 25% consists of multiple uses, including commercial and industrial businesses, schools, and undeveloped/vacant land.
- Middle Sweetwater HA (909.2): Within this HA, undeveloped or vacant land uses dominate, at approximately 38%, followed by residential uses at 28% and open

⁵ Telegraph Canyon Channel is in HSA 909.11, but drains directly to San Diego Bay rather than to the Sweetwater River. HSA 908.32, while technically in the Pueblo HU, drains to the Sweetwater River, so it is considered part of the Sweetwater HU.

⁶ In this document, the Copermittees within the San Diego Bay WMA and Caltrans are collectively referred to as Responsible Parties (RPs).

space/preserves at 25%. The remaining 8% consists of multiple uses, including commercial businesses and transportation.

4.1.3 Otay River Hydrologic Unit (910)

The Basin Plan identifies the Otay HU as the second largest of the three San Diego Bay HUs. The Otay HU consists of three HAs: Coronado (910.1), Otay Valley (910.2), and Dulzura (910.3). It comprises nearly 98,500 acres and includes four major waterbodies: the Upper and Lower Otay Reservoirs, Otay River, and San Diego Bay. The two reservoirs supply drinking water, wildlife habitat, and recreational opportunities. The Otay HU includes portions of San Diego Bay and the San Diego Bay National Wildlife Refuges, the Rancho Jamul Ecological Reserve, the Otay Valley Regional Park, and approximately 23,000 acres that provide habitat for endangered plant and animal species as part of the San Diego County Multiple Species Conservation Program.

The dominant land uses within the HAs are as follows (San Diego Bay Watershed Copermittees, 2008):

- Coronado HA (910.1): Military uses comprise approximately 52% of land use in this HA. Other significant land uses include residential uses at 15%, followed by transportation uses at 12%, and commercial/office uses at 8%. Open space/preserves and parks account for a combined 10% of land uses. The remaining 3% consists of multiple uses, including undeveloped/vacant land, schools, and public facilities.
- Otay HA (910.2): Within this HA, undeveloped/vacant land use accounts for 25% and open space/preserves make up 24%. Other significant land uses include residential uses at 18%, transportation and industrial uses at 9% each, public facilities at 5%, and commercial/office uses at 4%. The remaining 6% consists of multiple uses, including agriculture and schools.
- Dulzura HA (910.3): Within this HA, open space/preserves make up the majority of land use at 48%, followed by undeveloped or vacant land uses at 37%, and residential uses at 12%. The remaining 3% consists of multiple uses, including commercial and industrial businesses, agriculture, and transportation.

4.2 Surface Water Quality in San Diego Bay

Tides in San Diego Bay are classified as mixed diurnal/semi-diurnal, with a dominant semi-diurnal component. Generally, San Diego Bay has two low and two high tides per day, on an approximately two-week spring–neap tidal cycle that is associated with the phase of the moon. Tidal exchange in San Diego Bay exerts control over flushing, salt and heat balances, and water residence time. The ebb and flow of tides mix ocean and San Diego Bay waters, and produce currents, induce changes in salinity, and alternately expose and inundate portions of the shoreline. Tidal flushing and mixing are important for maintaining water quality and moderating water temperature that has been affected by exchange with the atmosphere or by heating. Water quality in San Diego Bay is primarily affected by tidal flushing and currents; it is also influenced locally by freshwater inflows.

Water quality characteristics (e.g., salinity, temperature, and dissolved oxygen) form a gradient within San Diego Bay: waters in the northern bay have conditions similar to those of the ocean; the southern bay is strongly affected by shallow depths, fresh water inflows, and insulation; and the central bay is intermediate in character. The turbidity (i.e., the amount of particulate matter in suspension in the water column) of San Diego Bay waters is affected by phytoplankton blooms; inputs of fine sediments from surface runoff during and after storms; and sediment resuspension by winds, waves, and human activities. Consequently, an increase in turbidity can decrease light penetration and the level of primary biological production. Turbidity in San Diego Bay varies both temporally and spatially.

As discussed in Section 3.1, San Diego Bay sediments are impaired for several constituents. A total of 172 acres of San Diego Bay are designated as impaired, containing toxic sediments and/or degraded benthic communities due to both point and nonpoint sources. The primary contaminants of concern in San Diego Bay sediments are chlorinated pesticides, PAHs, PCBs, and heavy metals.

4.3 Pacific Ocean

In addition to San Diego Bay, the project footprint includes the area around the Imperial Beach Pier (Figure 4-1). Details regarding the Fourth of July Imperial Beach Fireworks show are discussed in Section 2.1.2 (Fourth of July Imperial Beach Fireworks Show).

The Imperial Beach project site is part of the Tijuana River Watershed and WMA. The Tijuana River Watershed covers a range of natural ecosystems. The watershed originates in the 6,000-foot pine forest-covered mountains in east San Diego County and extends to the tidal saltwater estuary at the mouth of the Tijuana River and sandy beaches along the Pacific shoreline in the west (URS, 2016).

4.3.1 Surface Water Quality in the Pacific Ocean

The Imperial Beach project site lies within the Southern California Bight (SCB). Oceanographic conditions within the SCB are influenced by the Southern California Countercurrent, which is a large-scale eddy of the California Current, and the California Undercurrent, which is a northward-flowing current that occurs inshore and beneath the California Current (Hickey, 1993). Local-scale current patterns are complex and reflect the effects of local winds, tidal circulation, regional climatic events, and seasonal cycles in seawater properties and stratification (Winant, 1991).

There are four primary sources for nearshore currents: (1) wave-driven currents; (2) wind-driven surface currents moving approximately in the direction of the wind; (3) tidal currents that trend parallel to shore and switch direction with the falling or rising tide; and (4) currents near the mouth of coastal lagoons that result from river flow and/or tidal exchange within coastal wetlands. There are two types of surf zone currents: longshore currents and onshore/offshore currents.

Water quality within the project area reflects natural seasonal patterns. During late spring through fall, solar heating preferentially warms the ocean surface, resulting in depth-related gradients in water temperature (thermocline). Strong density gradients (pycnocline), related

primarily to the water temperature changes with depth, restrict vertical mixing of the water column, which strongly affects the depth distribution of most water quality parameters (Jackson, 1986). During winter and early spring, the strength of the vertical stratification decreases in response to weaker solar heating, mixing by winter storms, and upwelling.

Upwelling is initiated when northern winds displace surface waters offshore, resulting in replacement by colder, deeper waters with lower dissolved oxygen concentrations, and higher salinity and nutrient concentrations. Upwelling is generally present from late March through July in the San Diego County area. Downwelling occurs when southern winds push offshore waters toward the shore, thus pushing nearshore surface waters down and causing warmer waters and lower salinity than are typical for deeper waters (Mann and Lazier, 1991). Seasonal upwelling and downwelling affect marine water quality along the San Diego coast (Hickey, 1993).

Additionally, stormwater runoff from coastal rivers and streams adds freshwater that can cause large turbidity plumes and reductions in near-surface salinity up to several miles from shore. River and stream discharges also add suspended sediments, nutrients, bacteria and other pathogens, and chemical contaminants to nearshore waters.

The Pacific Ocean Shoreline near the Project Site (i.e., Imperial Beach Pier) has one CWA Section 303(d) listing for a chemical contaminant (PCBs in fish tissue), but no listings for either toxicity, or benthic community effects (see footnote on Page 3-3). The Pacific Ocean Shoreline, Tijuana HU, is also on the Section 303(d) list for bacteria contamination.

4.4 Beneficial Uses

Beneficial uses are defined within the Basin Plan as the uses of water necessary for the survival or wellbeing of man, plants, and wildlife (RWQCB, 2011a). The following beneficial uses, as defined statewide, are designated within the project area (i.e., San Diego Bay and the Pacific Ocean adjacent to the Imperial Beach Pier) and are shown in Table 4-1.

- **Water Contact Recreation (REC-1)** – Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses may include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, whitewater activities, fishing, and use of natural hot springs.
- **Non-contact Recreation (REC-2)** – Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses may include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, and sightseeing, as well as the aesthetic enjoyment of these activities.
- **Wildlife Habitat (WILD)** – Uses of water that support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.
- **Industrial Service Supply (IND)** – Uses of water for industrial activities that do not depend primarily on water quality, including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well re-pressurization.

- **Navigation (NAV)** – Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.
- **Commercial and Sport Fishing (COMM)** – Uses of water for commercial or recreational collection of fish, shellfish, or other organisms, including, but not limited to, uses of organisms intended for human consumption or bait.
- **Estuarine Habitat (EST)** – Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, and shorebirds).
- **Marine Habitat (MAR)** – Uses of water that support marine ecosystems, including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
- **Preservation of Biological Habitats of Special Significance (BIOL)** – Uses of water that support designated areas or habitats such as established refuges, parks, sanctuaries, ecological reserves, or ASBS, where the preservation or enhancement of natural resources requires special protection.
- **Rare, Threatened, or Endangered Species (RARE)** – Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.
- **Migration of Aquatic Organisms (MIGR)** – Uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms (e.g., anadromous fish).
- **Spawning, Reproduction, and/or Early Development (SPWN)** – Uses of water that support high-quality aquatic habitats suitable for reproduction and early development of fish. This use is applicable only for the protection of anadromous fish (i.e., fish that transition between saltwater and freshwater).
- **Shellfish Harvesting (SHELL)** – Uses of water that support habitats suitable for collecting filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption or for commercial or sport purposes.
- **Aquaculture (AQUA)** – Uses of water for aquaculture or mariculture operations, including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

Table 4-1.
Surface Water Beneficial Uses within the Project Area

Basin	Beneficial Use													
	REC-1	REC-2	WILD	IND	NAV	COMM	BIOL	EST	RARE	MAR	MIGR	SPWN	SHELL	AQUA
Pacific Ocean	•	•	•	•	•	•	•		•	•	•	•	•	•
San Diego Bay	•	•	•	•	•	•	•	•	•	•	•	•	•	

Notes:
 Existing Beneficial Use Source: RWQCB, 2011a

4.5 Groundwater

Groundwater basins are defined in the Water Quality Control Plan for the San Diego Basin by the same HUs, HAs, and HSAs as are surface waters. Groundwater within the project area has substantial saltwater intrusion and is unsuitable for use as drinking water (RWQCB, 2011a). Neither groundwater nor any other potential drinking water source is expected to be impacted by the project. Therefore, no potential impacts on potable water sources have been evaluated in this technical report.

4.6 Description of Existing Fireworks Display Events

A number of existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants occur year-round; however, the greatest number of fireworks display events occurs in the summer months from July to September. A list of existing fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach annually is provided in Table 4-2 below. A detailed description of these existing fireworks display events is provided below.

All of the existing fireworks display events identified in Table 4-2 are subject to applicable federal laws set forth in the Code of Federal Regulations, which are enforced by the U.S. Coast Guard (only for fireworks display events occurring within Navigable Waters of the U.S.), as well as state and local laws set forth in the California Department of Forestry and Fire Protection's *Fireworks in California* handbook (California Department of Forestry and Fire Protection, 2011), which are enforced by the responsible city fire department with jurisdiction over each fireworks display event. These fireworks display events are also conducted in accordance with the requirements of the General Permit (Appendix A).

**Table 4-2.
 Existing Fireworks Display Events Requiring a Discretionary Action by the District or
 Operated by the District's Tenants**

Time of Year	Approximate Number of Fireworks Display Events	Fireworks Display Event Tenant/Sponsor	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event (minutes)	Approximate Shell Size (inches)
January–March	7	<ul style="list-style-type: none"> U.S.S. Midway (7) 	<ul style="list-style-type: none"> North Embarcadero¹ 	4-10	2-6 inch
April–June	8	<ul style="list-style-type: none"> Symphony Summer Pops (1) NASSCO (1) U.S.S. Midway (6) 	<ul style="list-style-type: none"> South Embarcadero² NASSCO 	3–10	2–6-inch
July–September	29	<ul style="list-style-type: none"> Symphony Summer Pops (19) Big Bay Boom (1) Fourth of July Imperial Beach (1) Fireworks Show Over Glorietta Bay (1) U.S.S. Midway (6) NASSCO (1) 	<ul style="list-style-type: none"> Shelter Island³ Harbor Island³ North Embarcadero^{1,3} Central Embarcadero³ South Embarcadero² Glorietta Bay⁴ NASSCO Imperial Beach Oceanfront⁴ 	15–20 (Fourth of July) and 3–10 (non-Fourth of July displays)	3–10-inch (larger displays [e.g., Fourth of July]) 2–6-inch (non-Fourth of July displays)
October–December	5	<ul style="list-style-type: none"> U.S.S. Midway (4) Our Lady of Rosary Church (1) 	<ul style="list-style-type: none"> North Embarcadero^{1,5} 	3-10 (Intermittently during the 80-minute procession for Our Lady of Rosary Church Annual Procession)	2.5-6 inch
TOTAL	49				

Notes:

¹U.S.S. Midway Museum (includes a total of 23 annual fireworks display events)

²Symphony Summer Pops Concert Display (includes a total of 20 annual fireworks display events)

³Big Bay Boom, Fourth of July

⁴Fourth of July Display

⁵Our Lady of Rosary Church Annual Procession

Table 4-3 summarizes the total pounds of fireworks used for each existing fireworks display event. The total pounds of fireworks for the Big Bay Boom, Fireworks Show Over Glorietta Bay, Fourth of July Imperial Beach Fireworks Show, San Diego Symphony Summer Pops concert displays, Our Lady of Rosary Church Annual Procession fireworks display event, and any fireworks displays associated with the U.S.S. Midway Museum (multiple small shows) and NASSCO were determined through a review of the post-event reports submitted in compliance with the RWQCB's General Permit for these displays, special event permits obtained from the District's five member cities, and data collected from the fireworks organizers, fireworks operators, and/or District tenants.

**Table 4-3.
 Summary of Activity Associated with the Existing Fireworks Display Events**

Fireworks Display Event	Day of Event	# of events (2015)	Pounds of Fireworks per Event	Pounds of Fireworks Annually	No. of barges used per event
Big Bay Boom	Fourth of July	1	5,342	5,342	4
Fireworks Over Glorietta Bay Show	Fourth of July	1	397	397	1
Fourth of July Imperial Beach Fireworks Show	Fourth of July	1	456	456	0
Symphony Summer Pops Concert Display	non-Fourth	20	varies between 52.6 to 95 ¹	1,498 ¹	1
Our Lady of Rosary Church Annual Procession	non-Fourth of July	1	17.25	17.25	0
U.S.S. Midway Museum	non-Fourth of July	23	varies between 7.8 and 234.9	1,759	1 ²
General Dynamics NASSCO Ship Repair Facility	non-Fourth of July	2	157.5 and 281.6	439	0 ³

Notes:

¹ Pounds of fireworks for the Symphony Summer Pops events for year 2015 was obtained from the fireworks organizer. The largest shows (95.0 pounds per show) were three shows during Labor Day weekend. The remaining 17 shows throughout the year are smaller (between 52.6 and 78.8 pounds per show), and all shows average 74.9 pounds per show (74.9 x 20 = 1,498).

² Fireworks for displays on the U.S.S. Midway Museum are detonated either off of a barge in the San Diego Bay or off the end of flight deck of the Midway.

³ Fireworks for these displays are launched from the end of Pier 12.

Source: RWQCB 2015, District 2016.

4.6.1 Existing Fourth of July Fireworks Display Events

The following existing Fourth of July fireworks display events currently require a discretionary action or are anticipated to require a future discretionary action by the District.

4.6.1.1 Big Bay Boom

The Big Bay Boom is a large, multi-barge outdoor fireworks display event that takes place in North San Diego Bay on the Fourth of July. The District considers annually whether or not to provide event sponsorship for this free fireworks display event, which was first established in

2001. Given the natural amphitheater provided by the various neighborhoods, parks, and commercial centers surrounding San Diego Bay, including Point Loma, Shelter Island, Harbor Island, Liberty Station, Little Italy, North Embarcadero, Central Embarcadero, South Embarcadero, and the Coronado Ferry Landing, the Big Bay Boom is viewed by thousands of people annually. In addition, other private viewing locations are available at the U.S.S. Midway Museum, Hornblower Cruises and Events, Flagship Cruises and Events, and the San Diego Maritime Museum.

This fireworks display event entails the strategic temporary placement of four barges (moved and held in place by tug boats) around San Diego Bay near Central Embarcadero, North Embarcadero, Harbor Island, and Shelter Island and does not require construction of any on-land support facilities (Figure 2-1). The barges are not moored and instead are held in place by tugboats at their designated locations. During the fireworks display event, the U.S. Coast Guard (USCG), San Diego Fire Department (SDFD), San Diego Harbor Police Department (HPD), and special patrol vessels provide safety on the water, while the Harbor Police and San Diego Police Department provide traffic coordination and public safety on land. The fireworks display event lasts approximately 18 minutes, after which the barges are removed and, once the Fire Marshal has determined it is safe to do so, cleanup is conducted. A detailed description of barge setup, preparation, and cleanup practices is provided below.

Barge Setup and Preparation

Preparation of this fireworks display event includes placing fireworks on barges, which are set up primarily by the fireworks operator at a loading facility yard in accordance with the special event permits issued by SDFD and under supervision by governing fire officials. The barges are inspected for safety issues by the Fire Marshal and fireworks operator. The fireworks, which are encased in paper, are then loaded onto the barges in their California Department of Transportation (DOT)-approved shipping cartons by the fireworks operator. An electric match is placed in the fireworks fuse, and the wire from the match is wrapped around the nails to prevent the wires from being pulled into the air. Once the fireworks are prepared, all debris, including water bottles, paper wrappers, cardboard shipping boxes, fuses, wires, and wrapping, is removed from the barges and properly disposed of by the fireworks operator. The barges are then moved by tugboats to their designated locations. After reaching their designated locations, the barges are held in place by tugboats and a safety exclusion zone is established around each barge by USCG and/or the Fire Marshal, as appropriate. Public access is prohibited in this zone, and neither spectators nor occupied vessels not transporting fireworks technicians are allowed within the area until the Fire Marshal determines it is safe to do so after the conclusion of the fireworks display.

Post-Firework Display Event Cleanup Practices

Once the fireworks display is over, the fireworks operator and the Fire Marshal inspect the mortars and surrounding areas for any safety issues, such as unexploded firework components, in accordance with the requirements of Title 19 of the California Code of Regulations (CCR). The duration of this inspection varies but historically has been approximately 15 to 20 minutes. All unexploded fireworks on the barges are collected, handled, and disposed of by the fireworks operator in accordance with Title 19 of the CCR. No one is allowed into the safety zone until

granted permission by the Fire Marshal (Perry pers. comm.). Once the site is cleared by the Fire Marshal, and consistent with the requirements of the General Permit, the fireworks operator focuses on picking up large debris on the barge to prevent it from blowing into the water. The barges are brought back into the loading/setup yard facility to be further cleaned and have the mortars removed by the fireworks operator. In addition, as soon as permission is granted by the Fire Marshal, and consistent with the requirements of the RWQCB General Permit, the fireworks organizer and fireworks operator conduct a sweep of the fireworks detonation zone surrounding each of the four barges to gather and properly dispose of floating debris from spent fireworks. Any unexploded fireworks, including unexploded components, are collected, handled, and disposed of by the fireworks operator. Consistent with the RWQCB General Permit requirements, the fireworks detonation zone and shoreline areas adjacent to the four barge locations are inspected again for debris no later than 24 hours following the fireworks display event by the fireworks organizer. Any cardboard, paper, or other debris is removed. A contractor is also hired to pick up any litter left in the District's public parks beginning at midnight on the Fourth of July.

4.6.1.2 Fourth of July Imperial Beach Fireworks Show

The Fourth of July Imperial Beach Fireworks show is a small, single-location outdoor fireworks display event that takes place within the District's Coastal Development Permit jurisdiction in Imperial Beach on the Fourth of July. The District considers annually whether or not to provide event sponsorship for this free fireworks display event, which was first established in the early 2000s. Primary viewing locations for this event are from Portwood Pier Plaza, Dunes Park, and along the beach from Palm Avenue to Imperial Beach Boulevard. Thousands of people directly view this fireworks display event.

For this fireworks display event, fireworks are launched over the Pacific Ocean in Imperial Beach from the Imperial Beach Pier (Pier). During the fireworks display event, the City of Imperial Beach and San Diego County Sheriff's Department provide traffic coordination and public safety on land. The fireworks display event lasts approximately 18 minutes. After completion of the fireworks display event, and once the Fire Marshal has determined it is safe to do so, cleanup is conducted. A detailed description of Pier setup, preparation, and cleanup practices is provided below.

Pier Setup and Preparation

The fireworks display event on the Pier is set up primarily by the fireworks operator in accordance with the requirements of Title 19 of the CCR and is subject to review by the Imperial Beach Fire Department. Public access on the Pier is restricted beginning on the evening of July 3rd and ending on the morning of July 5th to facilitate rack installation, occurrence of the fireworks display event, and cleanup after the fireworks display event. The Pier is inspected for safety issues by the Fire Marshal and fireworks operator, and fireworks are loaded onto the Pier in their DOT-approved shipping cartons onto racks by the fireworks operator. The wires used to trigger the fireworks are secured to the racks to prevent the wires from being pulled into the air. Once the fireworks are prepared, all debris, including water bottles, paper wrappers, cardboard shipping boxes, fuses, wires, and wrapping, is removed from the Pier and properly disposed of by the fireworks operator. A minimum safety zone is established around the Pier by USCG

and/or the Fire Marshal, as appropriate. Public access is prohibited in this zone, and neither spectators nor occupied vessels not transporting fireworks technicians are allowed within the area until the Fire Marshal determines it is safe to do so after the conclusion of the fireworks display.

Post-Firework Display Event Cleanup Practices

Once the fireworks display is over, the fireworks operator and the Fire Marshal inspect the mortars and surrounding areas for any safety issues, such as unexploded firework components, in accordance with Title 19 of the CCR. The duration of this inspection varies but historically has been approximately 15 to 20 minutes. All unexploded fireworks on the Pier are collected, handled, and disposed of by the fireworks operator in accordance with Title 19 of the CCR. No one is allowed into the safety zone until granted permission by the Fire Marshal. Once the site is cleared by the Fire Marshal, and consistent with the requirements of the RWQCB General Permit, the fireworks operator immediately picks up debris from and sweeps the decks of the Pier to prevent debris and solid waste from blowing off the Pier into the water. The firework organizer and the fireworks operator, along with City of Imperial Beach Lifeguard and Public Works staff, also conduct several sweeps of the fireworks detonation zone and waterline to gather and properly dispose of all remaining debris. Any unexploded fireworks, including unexploded components, are collected, handled, and disposed of by the fireworks operator in accordance with Title 19 of the CCR. Consistent with the RWQCB General Permit requirements, the fireworks detonation zone, adjacent shorelines, and areas surrounding the Pier are inspected again for debris no later than 24 hours following the fireworks display event by the fireworks organizer. Any cardboard, paper, or other debris is removed.

4.6.1.3 Fireworks Show Over Glorietta Bay

The Fireworks Show Over Glorietta Bay is a single-barge fireworks display event that takes place in the Glorietta Bay inlet of San Diego Bay annually on the Fourth of July. It is anticipated that the District would consider annually whether or not to provide event sponsorship for this free fireworks display event, which was first established in 1993. Thousands of people directly view the Fireworks Show Over Glorietta Bay from the expansive walkway that extends along the western edge of the bay from Glorietta Bay Marina to Glorietta Bay Park; from Glorietta Bay Park at the southwestern corner of Glorietta Bay; from the Naval Amphibious Base to the south of Glorietta Bay; from Coronado Municipal Golf Course on the northern side of Glorietta Bay; from the high-rise condominiums at the Coronado Shores complex immediately to the west of Glorietta Bay; and from vessels that are either moored at Glorietta Bay Marina or visit and anchor there for the fireworks display event. The fireworks display event can also be seen from a distance along the San Diego Bay.

Fireworks Over Glorietta Bay involves the temporary placement of a single barge at the southeastern corner of Glorietta Bay. The barge is moved into its location and held in place by a tugboat. The preparation and placement of the barge do not require construction of any on-land support facilities. During the event, the Coast Guard, Harbor Police, and special patrol vessels provide safety on the water, while the Coronado Police Department provides traffic coordination and public safety on land. The fireworks display event lasts approximately 19 minutes, after

which the barge is removed and cleanup is conducted. A detailed description of barge setup, preparation, and cleanup practices follows.

Barge Setup and Preparation

The barge is set up primarily by the fireworks operator at a loading facility yard in accordance with the permits issued by the City of Coronado Fire Department and under supervision of governing fire officials (i.e., Fire Marshal). The barge is inspected for safety issues by the Fire Marshal and fireworks operator. The fireworks, which are encased in paper, are then loaded onto the barge in their DOT-approved shipping cartons by the fireworks operator. An electric match is placed in the fireworks fuse, and the wire from the match is wrapped around the nails to prevent the wires from being pulled into the air. Once the fireworks are prepared, all debris, including water bottles, paper wrappers, cardboard shipping boxes, fuses, wires, and wrapping, is removed from the barge and properly disposed of by the fireworks operator. The barge is then moved by tug boat to its designated location. After reaching its designated location, the barge is held in place by a tug boat and a minimum safety exclusion zone is established around the barge by the U.S. Coast Guard and/or the Fire Marshal, as appropriate. Public access is prohibited in this zone, and neither spectators nor occupied vessels not transporting fireworks technicians are allowed within the area until the Fire Marshal determines it is safe to do so after the conclusion of the fireworks display.

Post-Firework Display Event Cleanup Practices

Once the fireworks display is over, the fireworks operator and the Fire Marshal inspect the mortars and surrounding areas for any safety issues, such as unexploded firework components, in accordance with the requirements of Title 19 of the CCR. The duration of this inspection varies but historically has been approximately 15 to 20 minutes. All unexploded fireworks are collected, handled, and disposed of by the fireworks operator in accordance with Title 19 of the CCR. No one is allowed into the safety zone until granted permission by the Fire Marshal (Szymanski pers. comm.). Once the site is cleared by the Fire Marshal, and consistent with the requirements of the General Permit, the fireworks operator focuses on picking up large debris on the barge to prevent it from blowing into the water. The barge is then brought back into the loading/setup yard facility to be further cleaned and have the mortars removed by the fireworks operator. In addition, as soon as permission is granted by the Fire Marshal, and consistent with the requirements of the RWQCB General Permit, the fireworks organizer, fireworks operator, and/or the Coronado Lifeguard conduct a sweep of the fireworks detonation zone to gather and properly dispose of floating debris from spent fireworks. Any unexploded fireworks, including unexploded components, are collected, handled, and disposed of by the fireworks operator. Consistent with the RWQCB General Permit requirements, the fireworks organizer and/or the Coronado Lifeguard also conduct an inspection of the waterfront around the Glorietta Bay to look for and remove any debris along the shoreline no later than 24 hours following the fireworks display event.

4.6.2 Other Fireworks Display Events

A number of other existing fireworks display events that require a discretionary action by the District or are operated by the District's tenants occur in and around San Diego Bay throughout the year, including displays associated with the USS Midway Museum, NASSCO, San Diego

Symphony Summer Pops concerts, and private events sponsored by organizations, such as the Our Lady of Rosary Church Annual Procession.

The Symphony Summer Pops is a concert series sponsored by the San Diego Symphony, which is held annually during the summer months at Embarcadero Marina Park South. The District considers annually whether or not to provide event sponsorship and issue a Tideland Use and Occupancy Permit, Lease, or other similar approval for this concert series, which includes fireworks display events. These concerts are held on most weekends from late June through August; however, not every concert is accompanied by a fireworks display. When the concerts do include a fireworks display, the pyrotechnics are launched from a barge located off Embarcadero Marina Park South in an area known as South Embarcadero. Each of these fireworks display events lasts approximately 5 minutes, with one show lasting approximately 10 minutes.

The Our Lady of Rosary Church Annual Procession is a private event sponsored by Our Lady of Rosary Church that involves the launching of fireworks from the Grape Street Pier while a procession marches down Harbor Drive, within the North Embarcadero area. The District considers annually whether or not to issue a Special Event Permit for this fireworks display event. Fireworks for this display are launched intermittently during the 80-minute procession.

Other existing non-Fourth of July fireworks display events within and/or adjacent to the District's jurisdiction include those associated with the U.S.S. Midway Museum (multiple small shows) and NASSCO. The U.S.S. Midway Museum conducts up to 23 fireworks display events annually. Existing displays last approximately 3 to 10 minutes and are typically launched from the U.S.S. Midway flight deck or on a barge within San Diego Bay. NASSCO's two existing displays last approximately 10 minutes and are typically launched from the end of Pier 12 within San Diego Bay.

4.7 Firework Display Event Locations

4.7.1 Setting for Existing Fireworks Display Events

Existing fireworks display events currently occur at several locations within the San Diego Bay, a natural harbor and deep-water port in southern San Diego County, and the Imperial Beach Oceanfront. San Diego Bay is an active maritime environment that provides passage and berthing for numerous types of boats and vessels, including small recreational boats that moor at dock marinas and open anchorage marinas within the Bay, mid-sized vessels such as private yachts and harbor cruise boats, and large vessels that consist of naval ships, cruise ships, cargo ships, and shipping barges. Fireworks display event within San Diego Bay take place off Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), and the NASSCO ship repair facility. In addition, fireworks display events take place along the Coronado Bayfront within Glorietta Bay (an inlet of the San Diego Bay adjacent to Coronado Island) and the Imperial Beach Oceanfront.

4.7.1.1 North San Diego Bay

North San Diego Bay fireworks display events occur primarily from barges placed adjacent to Shelter Island, Harbor Island, North Embarcadero, Central Embarcadero, and South Embarcadero. Existing displays occurring at these locations include Big Bay Boom, which occurs on the Fourth of July and includes the placement of four barges within the Bay adjacent to Shelter Island, Harbor Island, North Embarcadero, and the Central Embarcadero. Non-Fourth of July fireworks display events that occur in the north San Diego Bay include the San Diego Symphony Summer Pops Concerts, which include 20 displays per year launched from a barge off Embarcadero Marina Park South in the South Embarcadero, and the Our Lady of Rosary Church Annual Procession fireworks display event, which takes place during the fall at the Grape Street Pier within the North Embarcadero area. In addition, the U.S.S. Midway Museum holds approximately 23 fireworks display events generally associated with private events, which take place either from the flight deck or off a barge within San Diego Bay in the North Embarcadero area. These locations are discussed below and include the fireworks display events that occur within them.

Shelter Island

Shelter Island is directly south of the community of Point Loma, north of Naval Air Station North Island, and east of the Space and Naval Warfare Systems Center. California State Route (SR) 209 runs northwesterly approximately 0.75 mile from the site boundary. The only fireworks display event that occurs near Shelter Island is the Big Bay Boom Fourth of July event, which entails the placement of a single, temporary barge just offshore of Shelter Island.

Harbor Island

Harbor Island is south of San Diego Lindbergh Field International Airport, north of Coronado Island, east of the Fleet Anti-Submarine Warfare Training Center, and across the Bay directly west of the County of San Diego Administration Center. North Harbor Drive is approximately 0.3 miles directly to the north of the site. The only fireworks display event that occurs near Harbor Island is the Big Bay Boom Fourth of July event, which entails the placement of a single, temporary barge just offshore of Harbor Island.

Centre City Embarcadero

The Centre City Embarcadero spans the length of San Diego Bay within the downtown San Diego area beginning at Laurel Street on the north end (just south of San Diego Lindbergh Field International Airport) and ending roughly at Park Boulevard, which is south of the Convention Center and north of the Tenth Avenue Marine Terminal. For the purposes of the EIR, the Centre City Embarcadero is broken down into three segments: North Embarcadero, Central Embarcadero, and South Embarcadero, as described below.

North Embarcadero

The North Embarcadero area is bounded by Laurel Street to the north, Pacific Highway to the east, the San Diego Bay to the west, and the point where Harbor Drive turns east (just north of Ruocco Park and the Seaport Village) to the south. Fireworks display events that occur within

the North Embarcadero include the Big Bay Boom Fourth of July event, which entails the placement of a single, temporary barge just offshore of the North Embarcadero, displays associated with private events at the U.S.S. Midway Museum, which are launched from the flight deck or off of a barge within San Diego Bay, and the Our Lady of Rosary Church Annual Procession display, which occurs in the fall from the end of the Grape Street Pier. The Grape Street Pier is southeast of San Diego Lindbergh Field International Airport within the “Crescent Zone” of the North Embarcadero (the curvilinear portion of coastline that is bounded by the U.S. Coast Guard facility to the north and the Grape Street Pier to the south).

Central Embarcadero

The Central Embarcadero area comprises Seaport Village, an approximately two-acre waterfront shopping and dining complex south of the intersection of Pacific Highway and West Harbor Drive. The Big Bay Boom Fourth of July event is the only fireworks display event that occurs within the Central Embarcadero area, and it entails the placement of a single, temporary barge just offshore of the Central Embarcadero.

South Embarcadero

The South Embarcadero includes the portion of the Centre City Embarcadero situated south of the Seaport Village and north of the Tenth Avenue Marine Terminal and is bounded by East Harbor Drive to the east. This area includes the San Diego Convention Center as well as several multi-story hotels. Fireworks display events that occur within the South Embarcadero include those associated with the San Diego Symphony’s Summer Pops Concert Series, which entail the placement of a single, temporary barge just offshore of the Embarcadero Marina Park South. Although one of the Big Bay Boom barges is located closer to the Central Embarcadero area, the fireworks display event is visible from the South Embarcadero area, and viewers utilize the Embarcadero Marina Park South and public access areas to view the fireworks.

4.7.1.2 Coronado Bayfront

In the vicinity of the Fireworks Show Over Glorietta Bay fireworks display event, the Coronado Bayfront mostly comprises the publicly accessible Coronado Golf Course and Glorietta Bay. The Coronado Golf Course extends along the eastern shore of the Coronado Bayfront, south of the San Diego-Coronado Bay Bridge, and wraps around the Coronado Bayfront into Glorietta Bay. The Glorietta Bay inlet is adjacent to Coronado Island, north and west of the Naval Amphibious Base, east of SR-75, and south and west of the Coronado Municipal Golf Course. The only fireworks display event that occurs along the Coronado Bayfront is the Fireworks Show Over Glorietta Bay, a Fourth of July event that entails the placement of a single, temporary barge at the southeastern corner of Glorietta Bay. In addition, landside areas along the northern Coronado Bayfront, particularly Coronado Ferry Landing Park, are used as viewing areas for the Big Bay Boom Fourth of July event.

4.7.1.3 General Dynamics NASSCO Ship Repair Facility

Fireworks display events also currently occur at the NASSCO ship repair facility, which is located on tidelands adjacent to (west of) the Barrio Logan neighborhood, south of the San Diego Coronado Bay Bridge, and north of Chollas Creek and Naval Base San Diego. The

segment of the Bay spanning from the Coronado Bay Bridge to Chollas Creek is occupied largely by ship repair yards, and the area is highly industrialized. The area consists of numerous ship repair piers and docks, ships or ship parts in various stages of repair, cranes and other large equipment, and warehouse buildings. Fireworks display events at NASSCO typically occur on Pier 12 in celebration of the launching of a new ship.

4.7.1.4 Imperial Beach Oceanfront

The Imperial Beach Pier (Pier) is an approximately 1,300-foot-long pier located within the City of Imperial Beach, which is the southern-most city in San Diego County, located just north of the U.S.-Mexico border. Access to the Pier is provided via Evergreen Avenue. The Pier is within the District's jurisdiction in Imperial Beach and is located along the oceanfront of Imperial Beach, south of Dunes Park, north of the Tijuana River National Estuarine Research Reserve, and west of the Portwood Pier Plaza. SR-75 runs northwesterly approximately 0.9 mile from the site boundary. The only fireworks display event that currently occurs at this site is the Fourth of July Imperial Beach Fireworks Show. For this event, fireworks are launched over the Pacific Ocean from the end of the Pier.

4.7.2 Setting for Proposed New Fireworks Display Events

4.7.2.1 National City Bayfront

While there are currently no existing fireworks display events along the National City Bayfront, it is anticipated that any future fireworks display events would take place within view of Pepper Park because Pepper Park is the closest publicly accessible gathering space near the National City Bayfront. Pepper Park is located along Tidelands Avenue in National City. The site is adjacent to the Sweetwater Channel, north of the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street Fill to the south, south of the National City Marine Terminal, east of San Diego Bay, and west of Pier 32 Marina. Interstate 5 (I-5) runs northeasterly approximately 0.4 mile from the park site boundary. Pepper Park site access is provided via Tidelands Avenue, which turns into Goesno Place as it approaches the park. One fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the vicinity of Pepper Park.

4.7.2.2 Chula Vista Bayfront

While there are currently no existing fireworks display events along the Chula Vista Bayfront, it is anticipated that fireworks display events would occur within view of both the Chula Vista Bayside Park and the Chula Vista Bayfront Park. Bayside Park is a waterfront park accessed by Bayside Parkway. It is bounded to the north by a boatworks facility, to the south by a man-made inlet that contains marinas, to the east by a recreational vehicle (RV) park, and to the west by the San Diego Bay. Bayfront Park is on the south side of the man-made inlet and is bounded to the south and west by the San Diego Bay and to the east by the marinas of the man-made inlet as well as vacant land. The park is accessed by Marina Way. I-5 is approximately 0.5 mile to the east of the Chula Vista Bayfront. A total of three fireworks display events (including one on the Fourth of July) along the Chula Vista Bayfront area are allowed under the Chula Vista Bayfront

Master Plan Settlement Agreement and Natural Resources Management Plan and are anticipated to involve the placement of a single, temporary barge in the Bay in the vicinity of the two parks.

5.0 ENVIRONMENTAL DATA REVIEW AND ANALYSIS

A number of scientific study reports and compliance reports were evaluated to assess the potential impacts of fireworks and fireworks chemicals of concern on surface water quality. The primary sources of information used for this assessment include:

- The RWQCB's General Permit and supporting information;
- The annual Big Bay Boom voluntary water quality monitoring conducted from 2013–2016;
- SeaWorld's fireworks monitoring events; and
- Other fireworks-related studies/information provided by the District or obtained through literature searches.

In addition, the Big Bay Boom and SeaWorld monitoring programs have both conducted post-event receiving water monitoring in coastal water bodies. These two local monitoring programs provide the most relevant information to assess potential impacts of fireworks on surface waters in the San Diego Bay region, including the Pacific Ocean. Summaries of the Big Bay Boom and SeaWorld monitoring programs are provided in Sections 5.2 and 5.3; the Big Bay Boom monitoring data tables are included in Appendix C.

Finally, literature searches, correspondence with the RWQCB, and other fireworks-related documents and articles supplied to the District by the Coast Law Group informed this analysis. Sections 5.1 through 5.6 summarize the data sources reviewed and pertinent findings.

5.1 Potential Impacts on Surface Waters

Fireworks display events conducted over water have the potential to impact surface water quality in a number of ways, including residual chemical residues that might fall back into surface waters during and after the fireworks display, and discharge of fireworks-related debris into surface waters from the launch sites and following shell detonation.

In general, most aerial fireworks shells typically consists of a cylinder or spherical cartridge, usually constructed of paper, plastic, or cardboard, and may include some plastic or paper internal components used to compartmentalize chemicals within in the shell. Most of the incendiary elements and shell casings burn up in the atmosphere; however, portions of the casings and some internal structural components and chemical residue fall back to the ground or receiving water bodies. A firework combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris such as paper, cardboard, plastic, wires, and fuses. This combustion residue and unignited pyrotechnic material, including duds and misfires, can fall into surface waters.

5.2 General Permit

Attachment F (Fact Sheet) of the General Permit provides an extensive overview of the potential for residual pollutant waste discharges associated with the public display of fireworks to impact receiving surface waters of the United States within the jurisdiction of the RWQCB.

The Fact Sheet identifies the following fireworks-related water quality issues:

- The receiving water fallout area⁷ affected by the fireworks residue can vary depending on wind speed and direction, the size of the shells, the angle of mortar placement, the type and height of firework explosions, and other environmental factors. Once the fireworks residue enters a water body, it can be transported to waters and shorelines outside the fallout area because of wind shear and tidal effects. All these factors associated with the detonation of fireworks have a potential to adversely affect or contribute to degradation of water and sediment quality within the receiving waters.
- The effects of fireworks pollutants on the environment are relatively unknown at this time. Pollution from other sources makes it difficult to measure the amount of pollution and subsequent effects that specifically result from fireworks.
- The possible toxicity of any fallout may also be affected by the amount of black powder used; type of oxidizer; colors produced; and launch method.
- Various factors can affect the levels of firework chemical residues in surface waters adjacent to fireworks displays, such as the frequency of firework events, the overall amount of ignited fireworks per event, and the efficiency of perchlorate oxidation (which controls the mass of perchlorate introduced to the environment). A primary constituent of concern in firework discharges is perchlorate. The detonation of fireworks can result in the release of perchlorate into the environment and surface waters. Perchlorate is a chemical of concern because of its measured impact on human metabolism and growth.

The RWQCB states in the Fact Sheet, “Proper implementation of fireworks BMPs required under the General Permit would adequately control and abate the discharge of pollutant wastes from public fireworks events to surface waters in the San Diego region.”

5.2.1 Best Management Practices Required by the General Permit

All dischargers (i.e. fireworks sponsors) covered under the General Permit are required to prepare a Fireworks Best Management Practices Plan (FBMPP). The FBMPP can be in the form of:

1. An official document or manual with full descriptions, figures, etc.;
2. A brief letter or notice describing or listing the BMPs to be implemented for health and safety at the event; or
3. A map or image describing and indicating where BMPs will be implemented before, during, and after the event.

Appendix A contains the information needed to prepare a FBMPP.

⁷ The area in which firework debris and pollutants fall after a pyrotechnic device is detonated. The extent of the fallout area depends on the wind and the angle of mortar placement.

5.2.2 Reporting

Public Fireworks Display Event Log. Dischargers shall maintain a written log for each public fireworks display event containing the information as described in Section V.C. of the General Permit. The log shall be completed within 5 days following each public fireworks event and shall be made available to the RWQCB upon request.

Post Firework Display Event Reporting. No later than 30 calendar days following each public display of fireworks event, the discharger shall complete the Public Display of Fireworks Post Event Report Form and make it available to the RWQCB upon request. A copy of the Public Display of Fireworks Post Event Report Form is provided as Appendix B.

5.2.3 Compliance

As stated in the General Permit, compliance is determined as follows:

This Order requires the use of minimum stipulated BMPs to control and abate the discharge of pollutant wastes from public fireworks events to surface waters in the San Diego Region. Proper implementation of the BMPs will assure the protection of water and sediment quality within the receiving waters. Dischargers enrolled under this Order are expected to comply with all water and sediment quality objectives through the implementation of BMPs. Compliance will be determined by evaluating the proper implementation of the minimum stipulated BMPs and their effectiveness in preventing and minimizing pollutant waste loading from public fireworks events to surface waters. Compliance will also be evaluated using information obtained under the monitoring and reporting program of this Order.

5.2.4 General Permit Debris Management Requirements

In addition to residual chemicals, the discharge of fireworks-related debris to receiving waters is also a concern. The General Permits states, "A firework combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris, including paper, cardboard, wires, and fuses." Based upon this concern, the RWQCB has established FBMPPs to be implemented by the fireworks organizer for all fireworks displays covered by the General Permit. Specific pre-show, event, and post-show FBMPPs are described in Appendix A.

With respect to debris and waste management, the General Permit directs all entities covered under to the General Permit to implement the following post-event activities

As soon as practicable, and no later than 24 hours following a public display of fireworks, the Discharger, in addition to complying with title 19 of the California Code of Regulations, section 1003, shall, to the extent practical, collect, remove, and manage particulate matter and debris from ignited and unignited pyrotechnic material, including aerial shells, stars (small pellets of composition that produce color pyrotechnic effects), paper, cardboard, wires, and fuses found during inspection of the entire firing range and adjacent affected surface water(s).

Immediately following a public display of fireworks, all hazardous fireworks waste, including duds, resulting from the set-up, firing, and strike of the public display, including live pyrotechnics waste, shall be handled and managed in accordance with applicable fireworks and hazardous waste laws and regulations.

All non-hazardous solid waste resulting from the set-up, firing, and strike of the public display, including wires, boxes, and packaging, shall be collected to the extent practicable and properly disposed of.

The General Permit also requires the submittal of a Public Display of Fireworks Post Event Report to the RWQCB. The following debris-related information must be submitted as part of the report:

- Confirmation that the entire firing range (including the fireworks launching area, adjacent shorelines, quays, docks, and fireworks fallout area), barge(s) (if used), and adjacent surface water(s) were inspected and cleaned of particulate matter and debris from ignited and unignited pyrotechnic material within 24 hours following the display;
- An estimate of the amount of debris collected from the firing range (in pounds dry weight); and
- An estimate of the amount of floating debris collected from adjacent surface water(s) (in pounds wet weight).

5.3 Big Bay Boom Monitoring Program

Voluntary pre- and post-show water quality monitoring has been conducted annually for the Big Bay Boom 4th of July fireworks event since 2013 (Amec Foster Wheeler 2013, 2014, 2015, and 2016). The voluntary water quality monitoring has been conducted by the Big Bay Boom fireworks organizer. As discussed in Section 3.2 (State and Local Policies and Regulations), only SeaWorld is identified as a Category 1 discharger in the General Permit. Because the Big Bay Boom fireworks event is considered a Category 2 Discharge under the General Permit, all water quality monitoring conducted for the Big Bay Boom has been performed on a voluntary basis. For consistency, the Big Bay Boom water quality-monitoring program has used the same list of fireworks-related chemicals of concern identified for Category 1 dischargers in the General Permit.

5.3.1 Big Bay Boom Water Quality Monitoring

Table 5-1 provides a summary of the scope elements of the Big Bay Boom voluntary monitoring programs from 2013 through 2016. The scopes of work for the annual monitoring events differed slightly from one another. However, all four events included the same analyte list (Table 5-1).

In each annual Big Bay Boom monitoring report, analytical data were evaluated as follows: (1) results were compared with CTR ambient water quality criteria; (2) a comparison was made between the pre- to post-event concentration levels; and (3) the chemistry results were evaluated based on distance from the fireworks barge.

Chemistry results from the annual monitoring programs are in summarized in Appendix C.

**Table 5-1.
 Big Bay Boom Monitoring Program Elements (2013–2016)**

Monitoring Year	Monitoring Program Overview
2013	<ul style="list-style-type: none"> ➤ North Embarcadero site only ➤ Samples collected 300 feet, 600 feet, and 900 feet downwind of fireworks launch barge in the upper 1 meter of water ➤ Samples were collected as soon as possible after receiving the “all clear” from the Fire Marshal (referred to as time 0), and at 30 minutes and 60 minutes
2014	<ul style="list-style-type: none"> ➤ Harbor Island site only ➤ Samples collected 0 feet, 25 feet, and 50 feet, and downwind of fireworks launch barge in the upper 1 meter of water ➤ Samples were collected as soon as possible after receiving the “all clear” from the Fire Marshal (referred to as time 0)
2015	<ul style="list-style-type: none"> ➤ Harbor Island site only ➤ Samples collected 0 feet, 25 feet, and 50 feet, downwind of the fireworks launch barge in the upper 1 meter of water ➤ Samples were collected as soon as possible after receiving the “all clear” from the Fire Marshal (referred to as time 0)
2016	<ul style="list-style-type: none"> ➤ North Embarcadero and South Embarcadero sites (two barges) ➤ Samples were collected 0 feet, 25 feet, and 50 feet downwind at both fireworks barges in the upper 1 meter of water ➤ Two 0-foot samples were collected adjacent to both barges immediately following the fireworks show ➤ 25-foot and 50-foot samples were collected at both barge sites as soon as possible after receiving the “all clear” from the Fire Marshal

**Table 5-2.
 Water Chemistry Analytical Testing for San Diego Bay**

Conventional, Nutrient	Semivolatile Organic Compound	Metals (Total and Dissolved)
total phosphorous, total perchlorate	bis-phthalate	arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, potassium, selenium, silver, thallium, tin, titanium, vanadium, zinc

The following sections provide an overview of the Big Bay Boom water quality monitoring efforts from 2013 through 2016. Figures 5-1 through 5-4 compare pre-show versus post-show chemistry results for the 2013–2016 monitoring events, respectively. These figures present the analytical results for six chemical analytes (copper, zinc, mercury, molybdenum, phosphorous, and perchlorate) of the 21 analytes tested (results for all chemicals tests are contained in Appendix A) The six analytes chosen to focus on in this section were selected due to their importance as contaminants of concern in San Diego Bay (i.e., CWA Section 303(d) listings or TMDLs), a heightened level of concern identified in the General Permit (i.e., perchlorate analyses), or, in the case of molybdenum, the lack of other local sources that may help confirm an increased concentration level due to fireworks residues. In addition, the chemicals analyzed but not presented in graphs in this section were not detected at levels that warrant further discussion/analysis.

2013 Monitoring Program

The 2013 water quality evaluation found limited relationships between the pre- and post-show results based on distance from the fireworks barge as well as time following the fireworks show in that there were no apparent trends or cause and effect relationships across analytes for 1) different time periods or 2) distances from the deployment barge (Figure 5-1). The average concentration levels for copper, zinc, and mercury observed at all three distances from the fireworks barge were below ambient water quality criteria levels of concerns. The metals measured with no available criteria levels (e.g., molybdenum) were found to be at similar concentrations in the water column in pre-show and post-show samples. This was also found to be the case for phosphorus. One chemical of concern, perchlorate, was detected at low levels at all three sampling locations; however, it was also detected in the pre-show sample in 2013.

2014 Monitoring Program

The 2014 Big Bay Boom monitoring showed no clear relationships between the pre- and post-show results based on distance from the fireworks barge (Figure 5-2), except for perchlorate.. The concentration levels for copper, zinc, and mercury observed at all three distances from the fireworks barge were below ambient water quality criteria levels of concerns. The metals measured with no available criteria levels were found to be at similar concentrations in the water column in pre-show and post-show samples. This was also found to be the case for phosphorus during the 2014 monitoring event.

Perchlorate showed an increase in both the 25-foot and 50-foot collection sites compared with the pre-fireworks display event baseline. While perchlorate was detected in some post-fireworks display event samples, the concentrations observed were very low (slightly above the method detection limit of 0.29 micrograms per liter [$\mu\text{g/L}$]). Although there is no CTR criterion for perchlorate, the highest concentration of perchlorate detected (1.4 $\mu\text{g/L}$) is orders of magnitude lower than the 10- to 100-mg/L range found to cause sublethal effects on freshwater fish in laboratory tests

2015 Monitoring Program

Limited relationships between the pre- and post-show results based on distance from the fireworks barge as well as time following the fireworks show were observed during the 2015 monitoring event (Figure 5-3). Except for copper and mercury, all constituent concentrations were below CTR criteria levels or were similar to pre-fireworks display event baseline levels. Additionally, concentrations of both trace metals were in fact slightly greater in pre-show versus post-show samples. Although copper and mercury concentrations exceeded chronic CTR criteria, there was no pre- or post-fireworks display event trend indicating that the fireworks display event was responsible for the observed exceedances. Furthermore, concentrations were well below acute CTR criteria maximum concentration levels. Unlike 2014, perchlorate levels were all non-detect in 2015 compared to the established method detection limit. It should be noted, however, that the method detection limit in 2014 (0.29 $\mu\text{g/L}$) was lower than the 2015

detection limit (1.2 µg/L)⁸. The higher detection limit in 2015 may be the reason that the results were non-detect. .

2016 Monitoring Program

Limited relationships between the pre- and post-show results based on distance from the fireworks barge as well as time following the fireworks show in metal levels were observed in the Big Bay Boom 2016 monitoring data (Figure 5-4). Dissolved copper was the only metal detected at a concentration that exceeded a CTR water quality criterion; however, it did so in both the pre-fireworks display event and post-fireworks display event samples. Phosphorus levels were similar in pre-show and post-show samples collected at 0 feet and 50 feet from the fireworks barge. The post-show phosphorus level in the 25-foot sample was slightly higher compared to the pre-show sample, but only slightly above the detection limit.

Low levels of perchlorate were detected in most pre-fireworks display event and post-fireworks display event samples collected in 2016. The post-fireworks display event samples collected adjacent to the fireworks barges appear to show increased perchlorate levels compared with pre-fireworks display event levels.

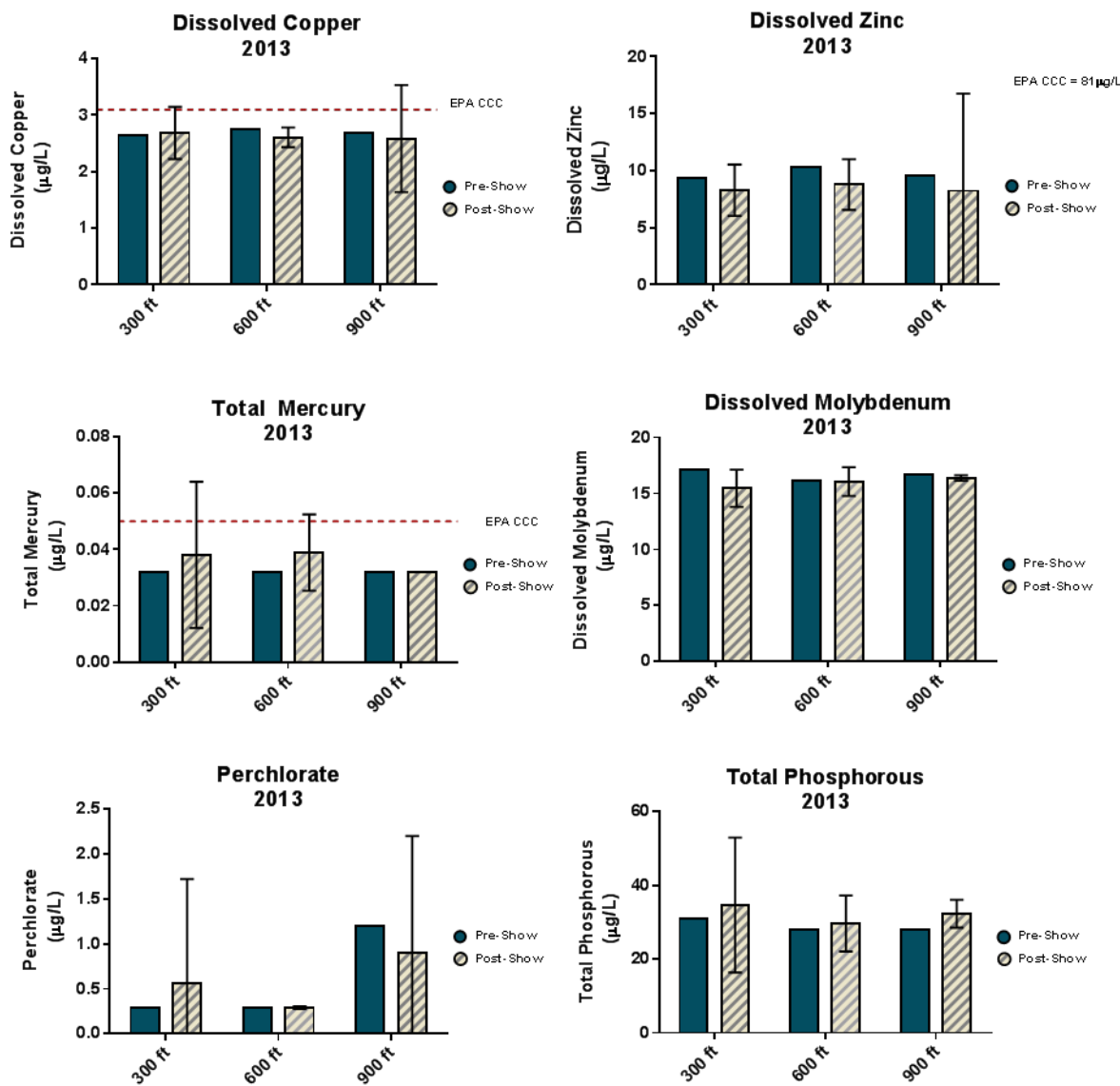
Big Bay Boom Monitoring Summary

Overall, chemical levels observed during the voluntary Big Bay Boom monitoring events have shown limited changes in water quality with regard to collection time or distance from the fireworks barge. The one exception is perchlorate, which has shown a slight pattern of increased concentration in some post-fireworks display event samples; however, the results have been variable. The post-show perchlorate levels since 2013 ranged from non-detect to a maximum concentration of approximately 6.4 µg/L in 2016 (in the field replicate sample collected at time 0 immediately adjacent to one of the barges). The concentrations were generally in the 1–2 µg/L range over this monitoring period. There is no water quality CTR criterion for perchlorate in surface waters, and perchlorate results detected in the voluntary existing Big Bay Boom monitoring programs are considerably lower than levels that have been shown by researchers to result in toxic effects on aquatic organisms in laboratory toxicity tests (10- to 100-mg/L).

With regard to the other chemicals analyzed (metals and organics), there were no discernible patterns observed with relation to the sampling distance from the fireworks barge or the collection time following the existing Big Bay Boom fireworks display events.

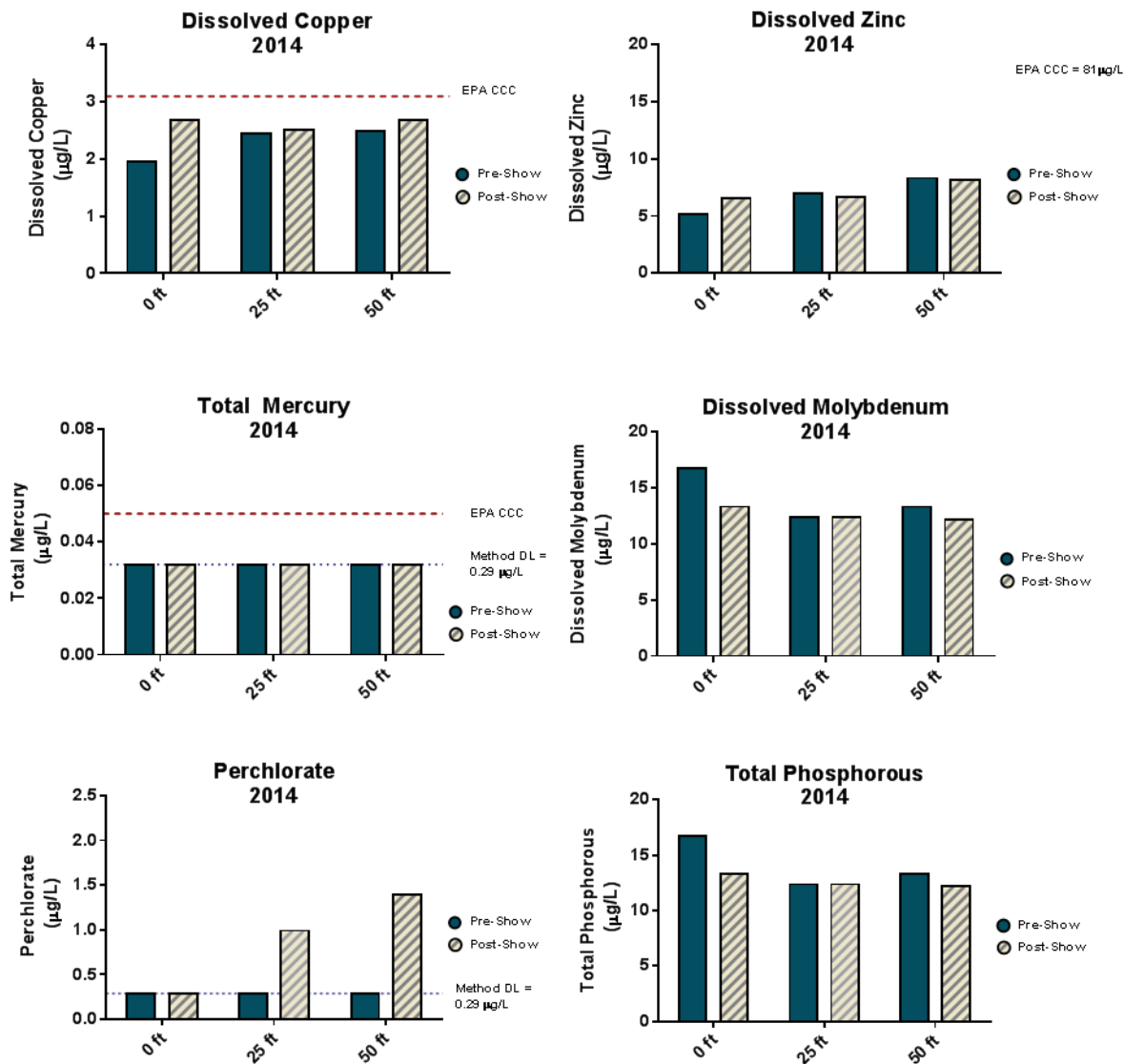
⁸ The analytical laboratory reported the following with regard to the 2015 perchlorate detection limits, “Due to matrix interference, a 40x dilution was reported for Perchlorate for seven samples. However, results were non-detect for all samples at lower dilutions but QA/QC criteria were not met due to the internal standard failing.” The laboratory was able to achieve lower detection limits during the other three sampling events in 2013, 2014, and 2016.

**Figure 5-1. Select Water Quality Measurements for the Big Bay Boom in 2013
 Pre- and Post-Show**



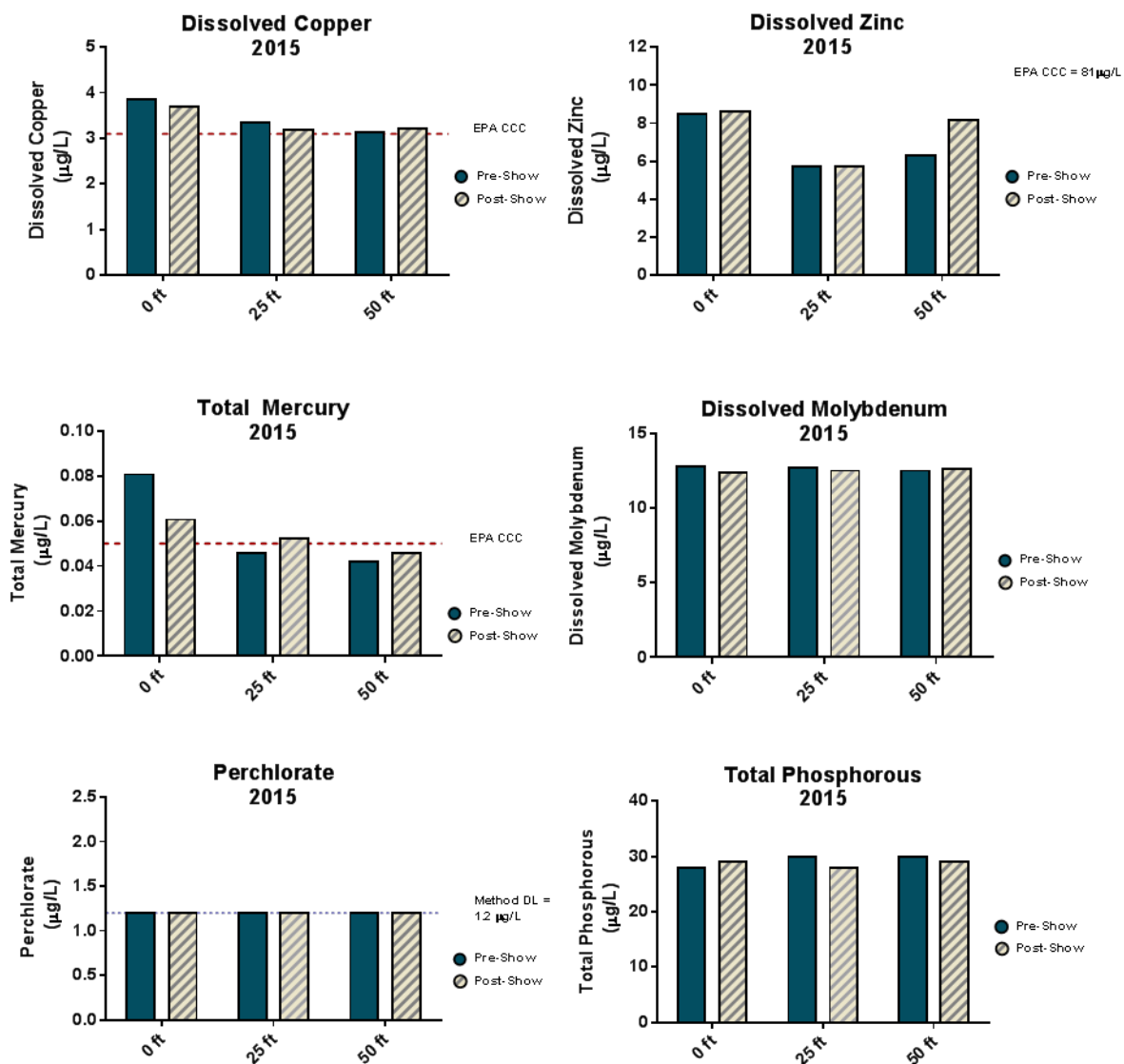
Mean values ±95 percent confidence intervals for post-show analyses (n=3; time 0, 30 min. post-show, and 60 min. post-show). Bars shown for the pre-show samples represent a single value at each sampling location.

**Figure 5-2. Select Water Quality Measurements for the Big Bay Boom in 2014
 Pre- and Post-Show**



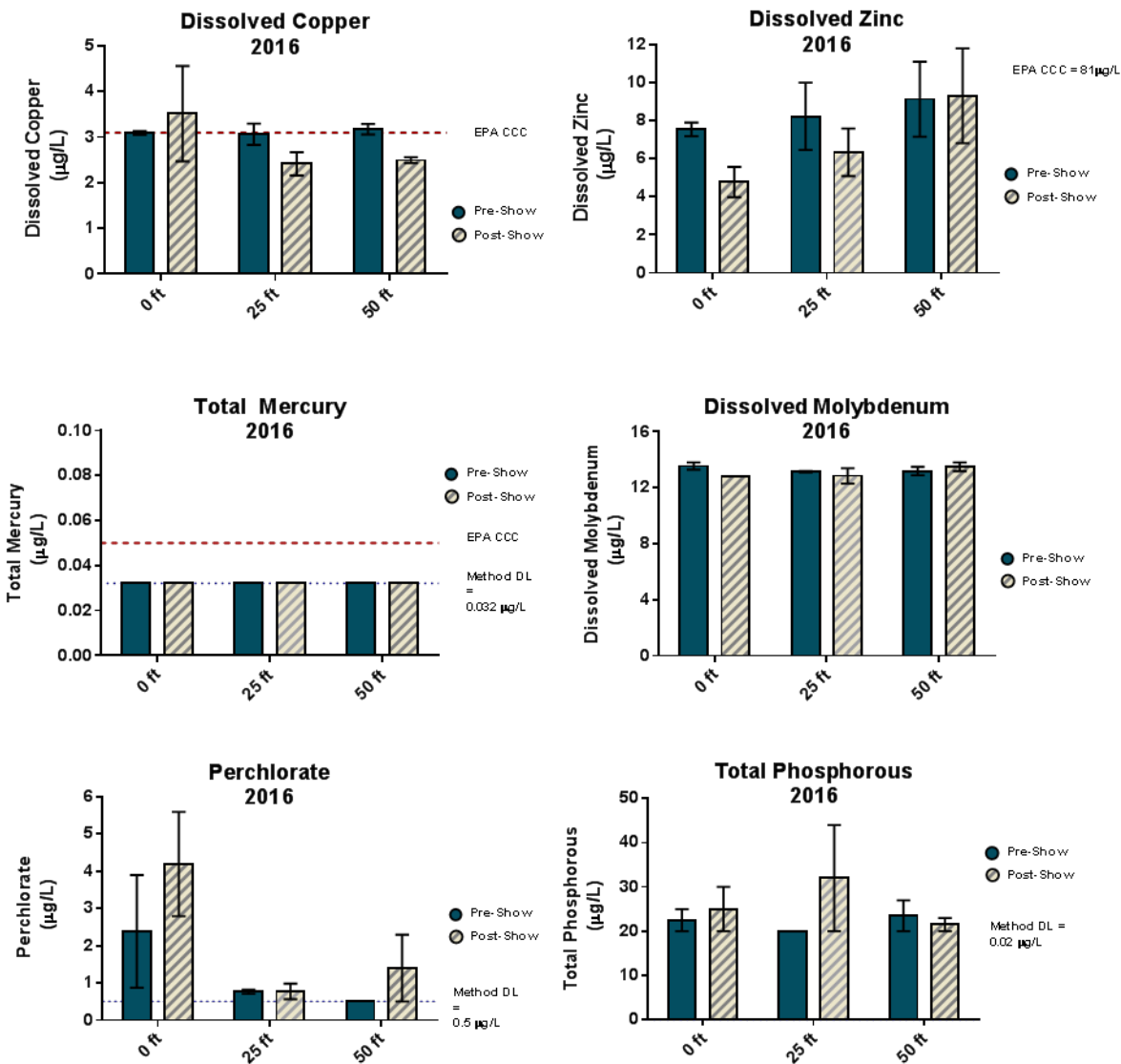
Bars represent results for a single value at each sampling location.

**Figure 5-3. Select Water Quality Measurements for the Big Bay Boom in 2015
 Pre- and Post-Show**



Bars represent results for a single value at each sampling location.

Figure 5.4. Select Water Quality Measurements for the Big Bay Boom in 2016 Pre- and Post-Show



Bars represent mean results for duplicate values at each sampling location; one sample from each of the two monitored barges. Error bars represent the range of values observed at the two barges.

5.3.2 Big Bay Boom Debris Management

In accordance with the General Permit, the Big Bay Boom has an established debris management program that is implemented following each fireworks event. Section 2.1.1.1 (Post-Firework Show Cleanup Practices) describes the Big Bay Boom debris management program. The post-firework cleanup has been coordinated and implemented by the fireworks organizer.

The Big Bay Boom debris management and recovery program has three main components:

1. Recovery of debris on each fireworks barge by the fireworks operator following the event to prevent debris from entering into the water during transit back to the barge staging area. Additional debris removal is conducted once the barges reach the loading/setup yard facility. Recovered materials are properly disposed of.
2. Collection and proper disposal of floating debris by the fireworks organizer and fireworks operator as soon as permitted by the Fire Marshal. The organizer and operator conducts a sweep of the fireworks detonation zone surrounding each of the four barges to gather and properly dispose of floating debris from spent fireworks.
3. The fireworks detonation zone and shoreline areas adjacent to the four barge locations are inspected again by the fireworks organizer for debris no later than 24 hours following the display. Any cardboard, paper, or other debris is removed.

As previously stated, the General Permit requires that information on debris recovery be submitted with the Public Display of Fireworks Post Event Report Form. The form requires the event coordinator to answer the following question:

Was the entire firing range (including the fireworks launching area, adjacent shorelines, quays, docks and the fireworks fallout area), barge(s) (if used), and adjacent surface water(s) inspected and cleaned of particulate matter and debris from ignited and unignited pyrotechnic material within 24 hours following the display?

5.4 SeaWorld Monitoring Program

SeaWorld is classified as a Category 1 discharger under the General Permit. As such, SeaWorld was required to prepare a Water and Sediment Monitoring Plan and conduct comprehensive water and sediment quality monitoring of its launch site adjacent to Fiesta Island on Mission Bay. The nightly firework events at SeaWorld are generally performed during the summer months, between April and September. Since 1985, a total of approximately 3,800 fireworks events have been performed. Under the current SeaWorld Master Plan update, approved by the California Coastal Commission in 2001, SeaWorld may present up to 150 fireworks events per year, with an anticipated average between 110 and 120 events per year (RWQCB 2011b). In 2015, SeaWorld conducted 72 firework shows (Sehlhorst, personal communication).

Because of SeaWorld's history of fireworks displays dating back for decades, the large number of events conducted on a yearly basis, and the fact that the fireworks are barge-launched in the same general location in a shallow enclosed basin with reduced circulation, SeaWorld fireworks events likely represent the maximum firework pollutant loading conditions and cumulative effects (i.e., the "worst-case scenario") in the San Diego region, including the Pacific Ocean, with respect to potential impacts of fireworks on water and sediment quality.

5.4.1 Water and Sediment Quality

SeaWorld has performed extensive water and sediment quality monitoring at its launch site in Mission Bay since 2001. They began more intensive monitoring of the fireworks fallout zone in 2008. The enhanced monitoring program includes sediment chemistry and toxicity analyses, and benthic community conditions (Brown and Caldwell, 2016). Recent sediment testing has been conducted using the multiple lines of evidence approach outlined in the SWRCB California Sediment Quality Objectives program (SWRCB, 2009).

The General Permit provides a detailed overview of SeaWorld's monitoring results prior to 2011. A general summary of this information is presented below.

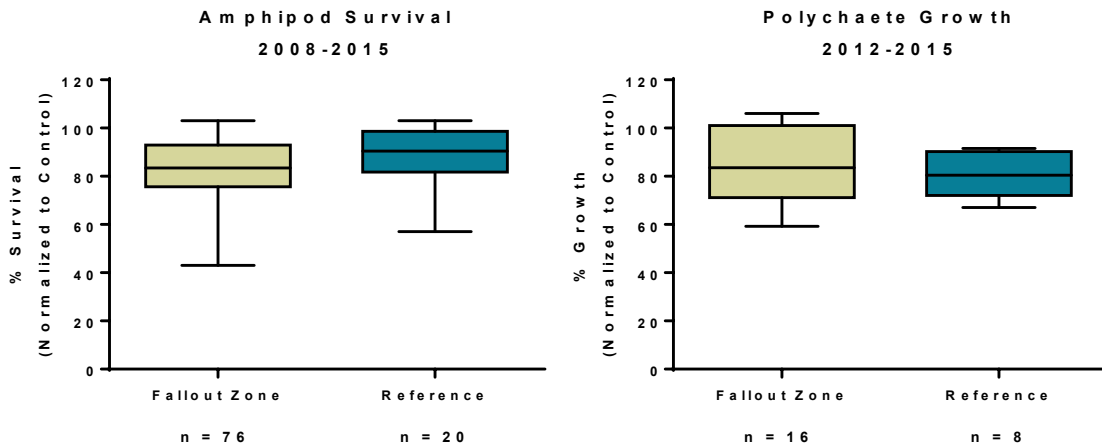
- Except for perchlorate and bis-phthalate, results of water chemistry sampling of regular SeaWorld events to date have shown little evidence of pollutants within the receiving water column at levels above applicable water quality criteria or detected reference site levels.
- Based on water quality data obtained to date, it is unlikely that single fireworks events of a size smaller than SeaWorld's Fourth of July and Labor Day events would cause exceedances of applicable water quality criteria in the water column of receiving waters.
- SeaWorld's sediment monitoring in Mission Bay found increased metal levels within the fireworks zone when compared with a reference site (metals included barium, chromium, cobalt, copper, molybdenum, potassium, selenium, silver, thallium, titanium, and vanadium). Sediment grain size and concentration analysis found correlations for barium, cobalt, chromium, copper, titanium, and vanadium. The data indicate an increase over time in of these specific chemicals within the sediment in the fireworks fallout area when compared to the reference site sediments.

As discussed above, beginning in 2008, SeaWorld has been conducting a more comprehensive assessment of the aquatic environment near its launch site near Fiesta Island in Mission Bay to identify any potential effects attributable to fireworks. The assessment has included amphipod and polychaete toxicity tests and benthic infaunal community analyses.

The results of these analyses are summarized in Figures 5-5 (toxicity) and 5-6 (benthic infaunal analyses). Results for the fireworks fallout zone are compared with two different reference locations in Mission Bay. Both the toxicity and benthic community results clearly indicate that the fireworks fallout zone is not degraded in comparison with the reference sites. The numbers of individuals collected and number of species were actually greater in the fallout zone relative to those found at the reference sites. Further, samples collected in the fireworks discharge area were considered to have benthic community conditions representative of a healthy reference

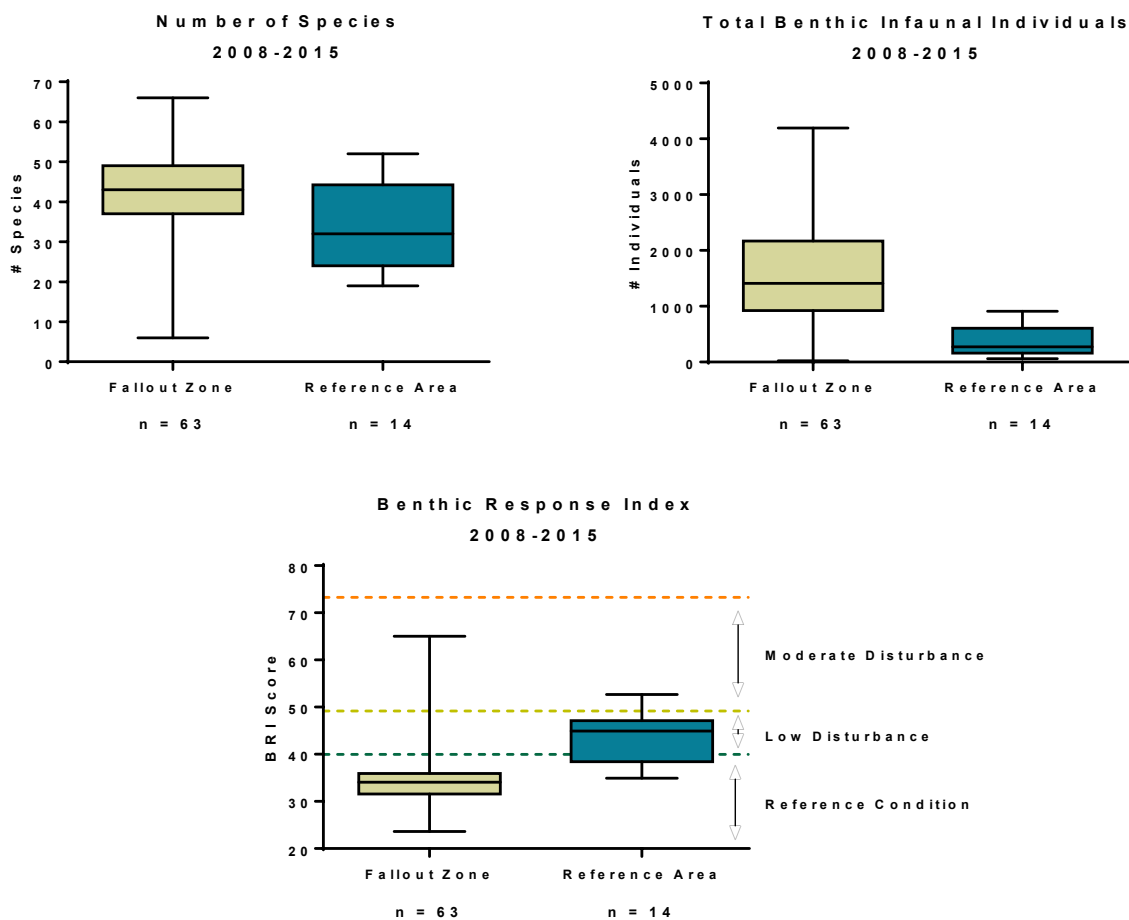
condition according to the benthic response index (BRI), which is a commonly used metric specific to the Southern California coastal shelf and embayments (Smith et al., 2003).

**Figure 5-5. SeaWorld Fireworks Monitoring
Toxicity Results (2008–2015)**



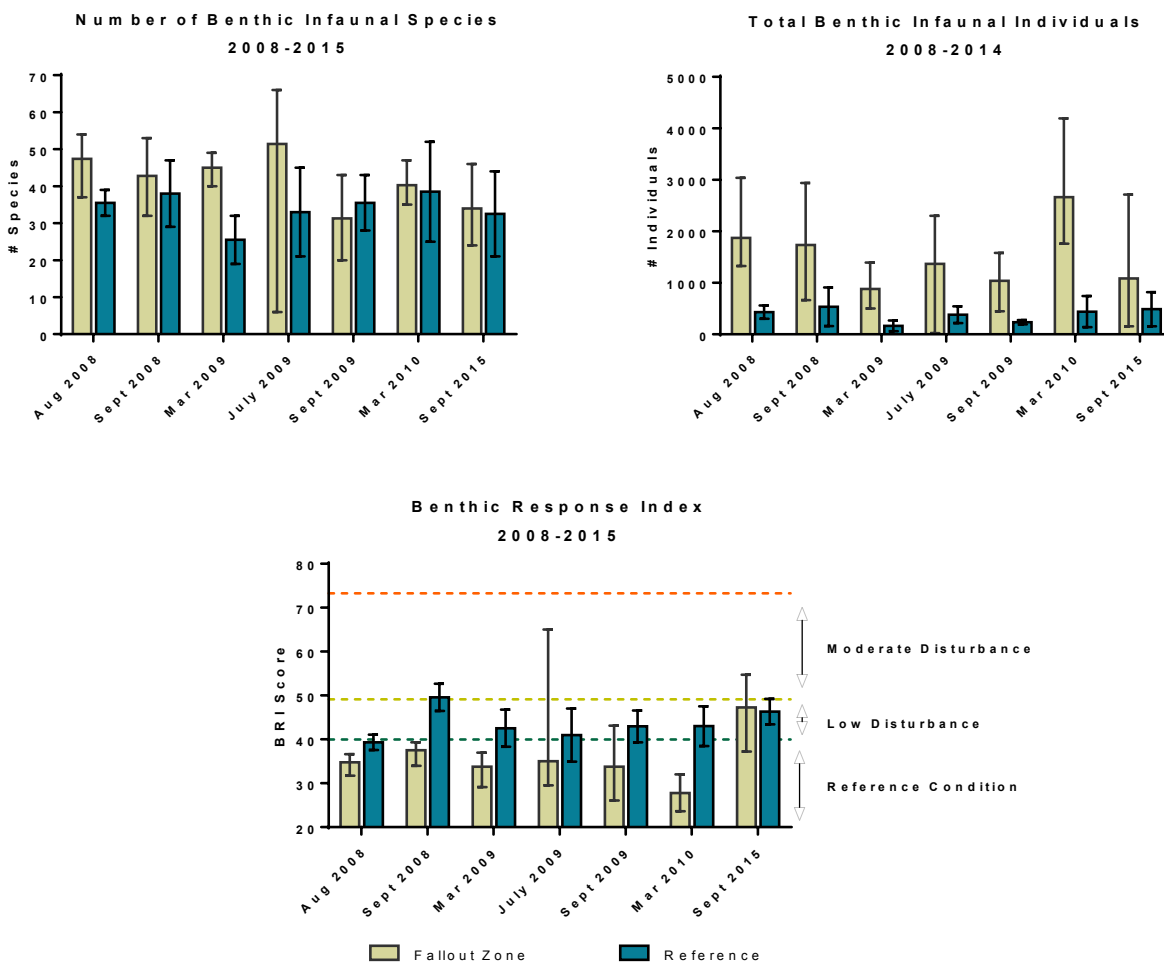
Plots showing the median and 25th to 75th percentile distribution (colored boxes), and whiskers depicting min and max values (n = the total number of measurements for each plot)

**Figure 5-6. SeaWorld Fireworks Sediment Monitoring
 Benthic Infaunal Community Results (2008–2015)**



Plots showing the median and 25th to 75th percentile distribution (colored boxes), and whiskers depicting min and max values (n = the total number of measurements for each plot)

**Figure 5-6 (continued). SeaWorld Fireworks Sediment Monitoring
 Benthic Infaunal Community Results (2008–2015)**



As noted above, the RWQCB concluded that sediment chemistry tests conducted in the fallout zone indicated increased metals levels within the fireworks zone when compared with a reference site. However, based on SeaWorld's monitoring program results, this increase has not resulted in toxicity or benthic community degradation within the fallout zone.

This is an important finding because, as the RWQCB noted in the General Permit, SeaWorld events likely represent the maximum firework pollutant loading conditions and cumulative effects in the San Diego region, including the Pacific Ocean, with respect to potential impacts of fireworks on water and sediment quality.

5.4.2 SeaWorld Debris Management

As required under the General Permit, SeaWorld submitted its FBMPP to the RWQCB in July 2011. The purpose of their plan is to ensure that: (1) fireworks debris is properly cleaned up and removed after each fireworks display; (2) unexpended materials are properly handled and disposed of by trained and knowledgeable personnel; and (3) trained fireworks personnel screen fireworks debris prior to disposal to verify that there are no unexpended/unexploded fireworks devices in the debris pile. SeaWorld's FBMPP also describes procedures for fireworks and trash collection, specific cleanup procedures for the launch area and environs (including a map depicting the cleanup areas), and recordkeeping requirements. SeaWorld has implemented in its FBMPP activities undertaken before, during, and after each event.

SeaWorld's site-specific BMPs include: (1) conducting sweeps of the fireworks fallout area where floating debris from spent fireworks is removed from the water using hand-held fishnets; and (2) conducting sweeps of the fireworks barge immediately after each show to prevent solid waste and debris from being swept into the water by winds (Brown and Caldwell, 2015). Unexploded fireworks, including unexploded components, are collected, placed in a container, and disposed of by the pyrotechnic operator. In addition, crews from a SeaWorld subcontractor collect fireworks debris from the adjacent shoreline every morning and afternoon following each aerial fireworks event. In addition to recovering debris from the water surface and adjacent beach, SeaWorld also conducts voluntary periodic sweeps of the bay bottom around their fireworks launch barge using divers (Sehlhorst, personal communication).

According to the General Permit, prior to 2011, SeaWorld typically collected an average of 11 pounds of fireworks related wet debris each evening following the show and 8 pounds the following morning (RWQCB, 2011b). In 2015, the wet material collected by SeaWorld following each event averaged between 2 to 15 pounds. The mass of dry material collected from the adjacent beach varied from 10 to 75 pounds (note: the dry material collected by SeaWorld includes both firework debris and other debris items found along the beach) (Sehlhorst, personal communication).

5.5 Imperial Beach Fireworks Show

5.5.1 Water Quality Monitoring

Per the General Permit, the Imperial Beach Fourth of July Fireworks Show is considered to be a Category 2 discharger. As such, no water quality monitoring is required or has been conducted for this event.

5.5.2 Imperial Beach Debris Management

In accordance with the General Permit, the City of Imperial Beach (i.e. the fireworks organizer) has an established debris management program that is implemented following each fireworks event. Their program outlines BMPs to be implemented to protect water quality, including post-show debris collection procedures. Debris collection procedures consist of having a cleanup crew conduct several sweeps of the fireworks detonation area on the pier following the event, and conducting additional debris sweeps on the morning following the event. The morning-after sweeps include checking for debris, cardboard, and paper on the adjacent shoreline areas near the Imperial Beach Pier. The City of Imperial Beach BMP document provides an aerial map of the potential debris area, which consists of a 500-foot circle around the launch area on the pier.

5.6 Additional Related Studies

This section summarizes the relevant findings of fireworks-related water quality studies conducted throughout the U.S. as well as pertinent studies on perchlorate (a fireworks component). This information is intended to supplement the findings of the local water quality monitoring programs. The studies and reports reviewed are summarized in Table 5-3.

It is clear from these studies that perchlorate is the primary fireworks chemical of concern and it has received the most attention from a monitoring and research standpoint because of its potential environmental and human health impacts. Perchlorate (ClO_4^-) originates from the dissolution of salts such as ammonium, sodium, potassium, and magnesium in water. In these forms, perchlorate is used as an oxidizer in propellants for fireworks. Perchlorates are stable at normal temperatures, but when they are heated to a high temperature, they begin to react. Once they begin to react, they produce a large amount of heat. This heat causes more of the perchlorates to begin reacting, creating even more heat. This chain reaction process repeats until an explosion occurs. Because perchlorates react in this way, they are used in rocket motors, fireworks, flares, gunpowder, and explosives.

Although perchlorate is recognized as an environmental contaminant and chemical of concern in fireworks, the consequences of elevated perchlorate levels in an aquatic system are not fully understood. Elevated perchlorate levels have been linked to hypertrophy⁹ and colloid depletion in fish (Liu, 2006). Perchlorate also has health implications for humans. It is absorbed by the thyroid gland in place of iodine, which can interfere with the production of thyroid hormone (Agency for Toxic Substances and Disease Registry [ATSDR], 2008). Thyroid hormone is essential for metabolism and mental development, so perchlorate exposure is thought to be

⁹ Hypertrophy is the enlargement of an organ or tissue from the increase in size of its cells.

particularly harmful to fetuses. The potential impact of perchlorate on humans and other living organisms is directly linked to its mobility and attenuation in the environment.

Perchlorates are soluble in water and generally have high mobility in soils (ATSDR, 2008). This characteristic results in their ability to move from soil surfaces into groundwater (a process called leaching) when they enter the environment. As shown in a study conducted at Mount Rushmore, perchlorates from fireworks can concentrate in groundwater (Hoogestraat and Rowe, 2016). In 2007, the Massachusetts Department of Environmental Protection (MADEP) released a multi-year study that linked areas that had hosted annual fireworks displays to perchlorate contaminated public wells (MADEP, 2007). The results of the MADEP study led Massachusetts to develop the nation's only drinking water standard for perchlorate, set at 2 µg/L (0.002 mg/L)¹⁰.

Perchlorates are ionic substances and, therefore, do not volatilize from water or soil surfaces. Perchlorates are known to remain unreactive in the environment for long periods of time; however, evidence suggests that microorganisms found in soil and water may eventually reduce perchlorate to other substances. If perchlorates are released to air, they eventually settle out of the air, primarily in rainfall. Perchlorates do not appear to accumulate in animals (ATSDR, 2008).

Review of the toxicity studies conducted on perchlorate indicate that the range of concentrations tested in laboratory studies that resulted in effects were in the 10- to 100-milligrams per liter (mg/L) range. The highest ambient levels of perchlorate measured in the Big Bay Boom and SeaWorld monitoring programs have been less than 10 µg/L (i.e. less than 0.01 mg/L), which is several orders of magnitude less than those in the laboratory studies. Note that the majority of the laboratory studies have been conducted on freshwater fish.

In addition, most of the studies conducted to assess the potential impacts of fireworks on water quality have been conducted on lakes. Lake environments are considerably different from coastal areas such as San Diego Bay or the Pacific Ocean, where tidal and current mixing is a dominant characteristic.

In summary, perchlorate is a chemical of concern because of its potential to cause environmental and human health impacts. Studies have shown that perchlorate related to fireworks displays over land can build up in groundwater. Laboratory studies have shown perchlorate to cause sublethal effects on freshwater fish in the 10- to 100-mg/L range. Perchlorate is of minor concern with regard to San Diego Bay and Imperial Beach Oceanfront fireworks displays because: (1) groundwater is not a beneficial use in the fireworks display areas; (2) concentration levels measured in ambient surface waters following San Diego Bay and SeaWorld displays are orders of magnitude below the effective levels observed in laboratory tests; and (3) the enclosed environments in which perchlorate has been shown to accumulate are unlike conditions in the San Diego Bay and Imperial Beach Oceanfront environments where tidal and current mixing is a dominant characteristic.

¹⁰ While a perchlorate standard has been developed for drinking water, there are no standards for surface waters. The drinking water standard of 2 µg/L is orders of magnitude below the levels where environmental effects have been observed.

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**Table 5-3.
 Fireworks Reports Reviewed and Summary of Findings**

Report Title	Authors	Journal	Year	Summary of Findings
Fireworks Studies				
Perchlorate and Selected Metals in Water and Soil within Mount Rushmore National Memorial, South Dakota, 2011–15	Hoogestraat, G.K. and Barbara L. Rowe	U.S. Department of the Interior U.S. Geological Survey Scientific Investigations Report 2016–5030	2016	<ul style="list-style-type: none"> ➤ A study by the U.S. Geological Survey, in cooperation with the National Park Service, was completed to characterize the occurrence of perchlorate and selected metals (constituents commonly associated with fireworks) in groundwater and surface water within and adjacent to Mount Rushmore National Memorial during 2011–2015. ➤ Water samples collected at reference sites generally had concentrations of metals within the same range of those sites within the Mount Rushmore National Memorial boundary, presenting little evidence of metal contamination due to anthropogenic (e.g., fireworks displays) factors within the park boundary. ➤ Perchlorate concentrations in groundwater and surface water at one study location (the Lafferty Gulch drainage basin) during 2011–2015 were greater than the U.S. Environmental Protection Agency’s Interim Drinking Water Health Advisory benchmark of 15 µg/L. ➤ The observed deposition of firework debris within the Lafferty Gulch drainage basin coupled with the lack of alternative perchlorate sources indicates that previous firework displays are the most probable source of perchlorate contamination in the groundwater.
An Initial Study into the Effects of Fireworks on the Water Quality of Lake George	Emily DeBolt, Kristen Rohne, and Jason Smith of the Lake George Association	Technical Report	2010	<ul style="list-style-type: none"> ➤ Perchlorate concentrations in baseline samples as well as the subsequent, weekly, samples revealed that there appeared to be an absence of measurable perchlorate at both the beginning as well as the end of the sampling period. ➤ The results indicate that throughout the duration of the sampling period, including the baseline samples, concentrations of antimony remained <0.005 mg/L. ➤ Concentrations of 0.005 mg/L barium were observed on several occasions and were not exclusive to samples taken prior to fireworks displays. No measureable trends in the barium were observed. ➤ Perchlorate levels of less than 0.002 mg/L were also found in the sediment samples from both locations, both near the fireworks and far away from any known fireworks displays.

**Table 5-3.
 Fireworks Reports Reviewed and Summary of Findings (Continued)**

Report Title	Authors	Journal	Year	Summary of Findings
The Fallout From Fireworks: Perchlorate in Total Deposition	Munster, Jennie; Gilbert Hanson; W. Jackson, R. Srinath	Water, Air, and Soil Pollution	2009	<ul style="list-style-type: none"> ➤ Spikes in perchlorate (up to 18 times background levels) were measured in rainwater at sites a few kilometers from displays following Fourth of July fireworks shows. ➤ It is suggested that wind properties and storm direction affect the extent of the particulate matter fallout zone; perchlorate impacts were found "a few kilometers from known displays."
Fireworks Pollutant Detection Pilot Study Lake Shoecraft and Mongo Pond	Snohomish County Public Works	Technical Report	2009	<ul style="list-style-type: none"> ➤ Results indicate that the discharge of fireworks waste into both Lake Shoecraft and Mongo Pond resulted in detection of perchlorate at levels which, given the literature, are believed to be of low threat to human health or the environment. ➤ Heavy metals associated with fireworks were not detected in either water body after July 4th, 2009 events. This lack of detection suggests that further study may concentrate on perchlorate as the primary pollutant of concern.
Perchlorate Behavior in a Municipal Lake Following Fireworks Displays	Wilkins, Richard T., Dennis D. Fine, and Nicole G. Burnett	Environmental Science and Technology	2007	<ul style="list-style-type: none"> ➤ Fireworks displays over water were found to result in perchlorate concentration spikes of 24 to 1,028 times the mean baseline value in a small municipal lake. ➤ Perchlorate levels took approximately 20 to 80 days to return to background levels. ➤ Adsorption tests indicate that bottom sediments have limited capacity (<100 nanomoles per gram) to remove perchlorate via chemical adsorption.
Evaluation of Perchlorate Contamination at Fireworks Displays	Massachusetts Department of Environmental Protection (Dartmouth, Massachusetts)	MADEP	2007	<ul style="list-style-type: none"> ➤ Historical fireworks displays are the likely source of perchlorate contamination in 2 of the 9 public water supply systems showing levels above 1 µg per liter. ➤ A site-specific model predicts that groundwater could be contaminated to tens of micrograms of perchlorate within 100 meters of the fireworks displays, although little site-specific information is available on the perchlorate content in the fireworks.
AB 826: The Perchlorate Contamination Prevention Act	California Assembly Members Jackson, Laird, and Lieber	Legislative Council Digest	2003	<ul style="list-style-type: none"> ➤ Perchlorate materials and wastes are associated with (among other items) solid rocket propellants, explosives, fireworks, flares, airbags, and some fertilizers. ➤ Discharge of perchlorate waste into the environment through air, surface, and subsurface soils, surface water, and groundwater media is a potential threat

**Table 5-3.
 Fireworks Reports Reviewed and Summary of Findings (Continued)**

Report Title	Authors	Journal	Year	Summary of Findings
				to water supply and to wildlife habitat, such as wetlands.
Environmental Effects of Fireworks on Bodies of Water	DeBusk, Thomas, Jeffrey J. Keaffaber, Benedict R. Schwegler Jr., and John Repoff	Proceedings of the International Symposium on Fireworks, Montreal, Canada	1992	<ul style="list-style-type: none"> ➤ A fireworks study from 1982 to 1992 in a small lake located at EPCOT Center in Lake Buena Vista, Florida, indicated that, after 2,000 fireworks displays over a period of 10 years, no eutrophication related to debris was evident. ➤ An increase in concentrations of barium, strontium, and antimony proportional to the increase in fireworks displays over a decade was noted in the water and sediments, but the concentrations are not thought to harm aquatic biota.
Additional Perchlorate Studies				
Perchlorate Toxicity in Fish: Trophic Transfer, Developmental Windows, and Histological Biomarkers	Furin, Christoff G.	Dissertation in partial fulfillment of requirements for the degree of doctor of philosophy, Fairbanks, Alaska	2014	<ul style="list-style-type: none"> ➤ Perchlorate has been observed to have several ecological effects in freshwater fish. At exposure concentrations ranging between 10 and 100 mg/L, perchlorate has been observed to concentrate in the gastrointestinal tract of a freshwater fish (pike), although the compound did not biomagnify. ➤ Morphological effects to the fish exposed to perchlorate demonstrated that it suppressed growth, beginning in the first 14 days post-fertilization, but overall growth traits were not sensitive to the timing of perchlorate exposure. ➤ Stickleback thyroid tissues appeared to be affected by perchlorate exposure within the first 42 hours post-fertilization, but recovered if removed from the exposure. ➤ Skeletal armor traits were suppressed in sexually mature stickleback fish exposed to perchlorate and gonadal development was altered.
Perchlorate Induces Hermaphroditism In Three-Spine Sticklebacks	Bernhardt, R., F.A. von Hippel, and W.A. Cresko	Environmental Toxicology and Chemistry 25(8): 2087-2096	2006	<ul style="list-style-type: none"> ➤ Potential ecological effects using sexually mature three-spine stickleback (<i>Gasterosteus aculeatus</i>) were assessed by exposing fish to three concentrations of sodium perchlorate-treated water with concentrations of 30, 60, and 100 mg/L. ➤ Perchlorate was found to interfere with the expression of nuptial coloration, courtship behavior, and normal sexual development in all three exposures. ➤ The study provided the first evidence that perchlorate produces androgenic effects and can induce functional hermaphroditism in a non-hermaphroditic vertebrate at a concentration of at least 30 mg/L.

**Table 5-3.
 Fireworks Reports Reviewed and Summary of Findings (Continued)**

Report Title	Authors	Journal	Year	Summary of Findings
Evaluation of Combinative Toxicology of Sodium Perchlorate and Sodium Arsenate Using Zebrafish (<i>Danio Rerio</i>) as a Model	Liu, Fujun	Dissertation in environmental toxicology submitted to the graduate faculty of Texas Tech University	2006	<ul style="list-style-type: none"> ➤ Exposures to juvenile zebrafish found that sodium perchlorate augments the sensitivity of effects caused by sodium arsenate ➤ Thyrotoxicity assay in the chronic toxicity test indicated that sodium perchlorate is a thyroid disrupter in <i>Danio rerio</i>, and sodium perchlorate is effective in inducing histopathological changes. ➤ Overall, it appears that the sodium perchlorate effects are amplified when sodium arsenic exists in the environment and vice versa, and that epithelial cell height (hypertrophy) may be used as an indicator of possible perchlorate exposure in zebrafish.
Effects of Ammonium Perchlorate on Thyroid Function in Developing Fathead Minnows, <i>Pimephales Promelas</i>	Crane, HM, D.B. Pickford, T.H. Hutchinson, J.A. Brown	Environ Health Perspectives	2005	<ul style="list-style-type: none"> ➤ The results reported indicate that environmentally relevant levels of ammonium perchlorate are likely to affect the thyroid axis of teleost fish. ➤ Growth and development of the early life stages of fathead minnows were significantly retarded after a 28-day exposure to 10 mg/L or 100 mg/L perchlorate.
Perchlorate In Sea Water	Greenhalgh, R. and J.P. Riley	Journal of Marine Biological Association, United Kingdom 41: 175-186	1961	<ul style="list-style-type: none"> ➤ Several species of marine algae were exposed to perchlorate concentrations of up to 1,000 mg/L. ➤ Whiles some species of algae exhibited a high level of resilience, others exhibited a reduced rate of growth. ➤ Overall observations showed “the toxicity of the perchlorate ion to be very slight, compared with the chlorate ion, which is toxic to plant life at a level of a few parts per million. This is probably because of its great chemical stability and its resistance to bioreduction.”

6.0 ENVIRONMENTAL IMPACTS AND CONTROL MEASURES

The objective of this technical analysis was to evaluate the extent and magnitude to which fireworks displays may affect water quality in San Diego Bay and the Imperial Beach Oceanfront. This evaluation was based upon the results of recent monitoring programs and other sources of information. Potential water quality impacts were evaluated by comparing post-firework show water quality monitoring results to (1) ambient (pre-show) conditions, (2) applicable water quality standards, and (3) findings of scientific studies and other monitoring programs.

This section summarizes the potential water quality impacts associated with current and future fireworks displays in the project area and provides potential control measures (when necessary) to help lessen impacts.

6.1 Impacts of Fireworks Residues on Surface Waters

Voluntary water quality monitoring of the Big Bay Boom fireworks events since 2013 has shown no significant impacts on surface waters. Impacts were measured by comparing results with applicable water quality criteria, and by comparing ambient chemical levels (pre-show) with post-show levels. The 2013–2015 monitoring events collected post-event sample after the Fire Marshal gave the “all-clear” signal (typically 20 minutes following the event). For the 2016 monitoring program, however, pump systems were deployed directly on the downwind side of two fireworks barges that collected samples immediately (within 1 to 2 minutes) following the end of the show.

Over the four-year monitoring program, the only chemical of concern that has shown a slight increase over ambient levels is perchlorate. However, the perchlorate levels observed in the Big Bay Boom and SeaWorld monitoring programs are several orders of magnitude less than 10 µg/L (i.e., less than 0.01 mg/L), which is several orders of magnitude below the 10- to 100-mg/L range found to cause sublethal effects on freshwater fish in laboratory tests. In addition, while a perchlorate standard has been developed for drinking water, there are no standards for surface waters. The drinking water standard of 2 µg/L is orders of magnitude below the levels where environmental effects have been observed. Drinking water is not a beneficial use in the bayfront project footprint.

No sediment monitoring has been conducted as part of the Big Bay Boom monitoring program, but SeaWorld has conducted considerable sediment testing in Mission Bay, and its fallout zone is shallower and has more restricted current and tidal flow compared with the various launch sites for the proposed project. As previously noted, SeaWorld events likely represent the maximum firework pollutant loading conditions (i.e., the “worst-case scenario”) in the San Diego region, including the Pacific Ocean, with respect to potential impacts of fireworks on water and sediment quality. While SeaWorld’s testing has found an increase of some chemicals in the fireworks fallout zone, the observed increase has not resulted in any toxicity or benthic community impacts.

Based upon the information discussed above, no sediment toxicity or benthic community impacts would be expected to result from the San Diego Bay or Imperial Beach Oceanfront fireworks displays.

Proposed Control Measure No. 1: Use of Perchlorate-Free Fireworks.

The fireworks operator shall consider using perchlorate-free fireworks consistent with the RWQCB's recommendation in the General Permit¹¹.

6.2 Impacts of Fireworks Debris

The RWQCB sought to address the issue of fireworks debris in the General Permit by requiring dischargers (i.e. fireworks organizers) to prepare a FBMP that addresses post-show debris recovery from launch platforms and surrounding waters and proper disposal of all recovered materials. The discharger is also required to keep a log of the amounts of fireworks debris collected and to report this information to the RWQCB with the Post Fireworks Display Report.

Proposed Control Measure No. 2: Fireworks Best Management Practices Plan.

No later than 60 days prior to the operation of a fireworks display event, the fireworks organizer, with the assistance of the fireworks operator shall prepare and submit a complete application package to the RWQCB in compliance with the General NPDES Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States in the San Diego Region from the Public Display of Fireworks (No. R9-2011-0022) (General Permit) or as amended or modified in the future by the RWQCB. In compliance with the General Permit, the complete application submittal package shall include a completed Notice of Intent form signed in accordance with the signatory requirements outlined in the General Permit; payment of the annual application fee as outlined in the General Permit; and, a comprehensive Fireworks Best Management Practices Plan. The comprehensive Fireworks Best Management Practices Plan shall include detailed debris best management practices that address the prevention, recovery, disposal, logging, and reporting of debris in a standard and consistent manner, as well as other operational and environmental protection practices to the satisfaction of the RWQCB and the District. The Fireworks Best Management Practices Plan shall also address potential varying tidal (e.g., current direction) and atmospheric conditions (e.g., wind speed and direction) that may be present during and immediately after the fireworks display event. The fireworks organizer shall submit the Fireworks Best Management Practices Plan that was included in the complete RWQCB application submittal package to the District for verification and to demonstrate compliance with the General Permit.

In addition, in compliance with the General Permit, the fireworks organizer, with the assistance of the fireworks operator, shall prepare the Post Event Report Form no later than 30 days following a fireworks display event and make available to the RWQCB upon request. The fireworks organizer shall submit the form to the District no later than 30 days following a fireworks display event to demonstrate compliance with the General Permit.

This control measure is consistent with the RWQCB's recommendation in the General Permit that states, "Whenever practicable and economically feasible, the Discharger shall consider the use of alternative fireworks produced with new pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke, and reduce pollutant waste loading to surface waters."

The composition of the shells used for the event should also be taken into consideration. As previously discussed, an aerial shell typically consists of a cylinder or spherical cartridge, usually constructed of paper, plastic, or cardboard, and may include some plastic or paper internal components used to compartmentalize chemicals within the shell. It is likely that some components of the shell (paper, cardboard, and cotton string) are biodegradable and would not persist for long periods in the aquatic environment. However, other materials, such as plastic, are likely to persist in the marine environment for lengthy periods if they are not recovered during the post-event cleanup operations conducted by the fireworks organizer. Based upon this consideration, a reduction in the used of non-biodegradable materials (particularly plastic materials) should be considered. The following control measures are consistent with the Coastal Development Permit Issues to the City of Santa Cruz for its October 1, 2016 fireworks display to celebrate the City's 150th anniversary (California Coastal Commission Application Number 3-16-0391).

Proposed Control Measure No. 3: Reduced Amounts of Non-Biodegradable Fireworks Components.

(1) The fireworks operator is prohibited from the use of aerial shells and special effect pyrotechnic devices that include a plastic outer casing and non-biodegradable inner components that make up more than 5 percent of the mass of the shell/device. The fireworks operator shall submit to the fireworks organizer material safety data sheets or similar product specification information to demonstrate compliance with this measure. The fireworks organizer shall then submit the material safety data sheets or similar product specification information to the District no later than one week prior to the fireworks display event.

(2) Prior to commencement of a fireworks display event, the fireworks operator shall remove all plastic and aluminum labels and wrappings from all aerial shells and special effect pyrotechnic devices. The fireworks operator shall submit to the fireworks organizer a report, including photographs, demonstrating compliance with this measure. This report shall then be submitted to the District no later than three days following the fireworks display event.

6.3 Cumulative Impacts

This section discusses potential significant cumulative impacts resulting from the Proposed Project and other related activities in the project area. A "cumulative impact" is defined in Section 15355 of the CEQA Guidelines as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

- The individual effects may be changes resulting from a single project or a number of separate projects.
- The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Based upon this definition, this section addresses the potential cumulative impacts that may arise from (1) the combined impacts of all covered fireworks displays conducted within the project area, (2) the combined impacts of covered and non-covered events, and (3) the impacts from the fireworks displays on existing impaired waterbodies.

Based on the data presented in Table 4-3, the Big Bay Boom show accounts for over 60 percent of the mass of fireworks launched on a yearly basis for events evaluated in the EIR. The preponderance of post-event water quality monitoring data for four Big Bay Boom events (see Section 5.3.1 Big Bay Boom Water Quality Monitoring) have shown no significant increase in chemical of concern in surface waters. Based upon this finding, the cumulative impacts on surface water quality from all covered events would be expected to be minimal. In addition, implementation of the control measures identified above would lessen the cumulative impact of fireworks debris on the aquatic environment.

In addition to the fireworks events covered in the EIR, there are also several other fireworks events that take place in locations around San Diego Bay. These events are listed in Section 5 (Table 5-2) of the EIR. For the most part, these events are considerably smaller in size and duration than the largest of the covered events—the Big Bay Boom. Due to the limited nature of these events, it is likely that the cumulative impacts on surface water quality from these additional plus Project events would be minimal. It is important to note that these additional events are also required to comply with the conditions and BMPs set forth in the General Permit.

As discussed in 3.1.2, portions of San Diego Bay and the Pacific Ocean in the vicinity of the fireworks events are currently considered to be impaired waterbodies due to chemical contamination, toxicity, high bacteria levels, benthic impairments, and/or bioaccumulation in the water column and/or sediments. From a cumulative impacts standpoint, the question is, “Does the incremental increase in chemicals that results from these fireworks displays contribute or exacerbate the impairments of these 303(d)-listed waterbodies?” Analysis of the Big Bay Boom and Sea World water quality monitoring indicate that the fireworks displays are likely not having a cumulative impact on surface waters in the 303(d)-listed segments. These two events are the most conservative from a water quality-monitoring standpoint (i.e., longest duration, most frequent, and greatest explosive weight) and both have been monitored extensively. Neither of these studies has identified any long-term impacts on water quality or biological communities. Consequently, the incremental increase in contaminant inputs to surface waters from the other existing fireworks displays is minimal when compared to other sources, such as surface runoff or legacy contamination. In addition, the four additional events being proposed (three in Chula Vista and one in National City) would not be expected to result in any negative effects on surface waters because of the relatively small weight of fireworks that are being proposed as well as the long distance from the any other events (e.g., Big Bay Boom).

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APPENDIX A

FIREWORKS GENERAL NPDES PERMIT ORDER NO. R9-2011-0022, CAG999002

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD



SAN DIEGO REGION

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Acting Secretary for
Environmental Protection

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Edmund G. Brown Jr.
Governor

ORDER NO. R9-2011-0022
NPDES NO. CAG999002

GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION
SYSTEM (NPDES) PERMIT
FOR RESIDUAL FIREWORK POLLUTANT WASTE DISCHARGES
TO WATERS OF THE UNITED STATES IN THE SAN DIEGO REGION FROM THE
PUBLIC DISPLAY OF FIREWORKS

The following Dischargers, as described in the following table, may apply for coverage
under this General Permit (also referred to herein as Order) and are subject to waste
discharge requirements as set forth in this Order:

Table 1. Discharger Information

Table with 2 columns: Discharger, Description. Description: Any person discharging pollutant wastes associated with the public display of fireworks to surface waters of the United States (U.S.) in the San Diego Region.
The U.S. Environmental Protection Agency and the California Regional Water Quality Control Board, San Diego Region, have classified these discharges as minor discharges. In accordance with Section 2200, Title 23 of the California Code of Regulations, discharges regulated by this Order are determined to be Category 3. The threat to water quality and complexity of the discharge is determined to be category 3C.

Discharges of residual firework pollutant wastes by persons identified in Table 1 above
from the discharge points identified in Table 2 below are subject to waste discharge
requirements as set forth in this Order. Administrative information is contained in Table
3 below.

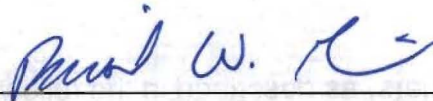
Table 2. Discharge Location

Table with 5 columns: Discharge Point(s), Discharge Description, Discharge Point Latitude(s), Discharge Point Longitude(s), Receiving Water(s).
Row 1: Various Locations throughout San Diego Region, Residual Firework Pollutant Waste Discharges to Waters of the United States, Various, Various, Inland Surface Waters, Enclosed Bays and Estuaries, Harbors, Lagoons, Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the California Water Quality Control Board, San Diego Region, on:	May 11, 2011
This Order shall become effective on:	June 1, 2011
This Order shall expire on:	May 31, 2016
Dischargers (also referred to as Enrollees) covered under this Order at the time of expiration will continue to be covered until coverage becomes effective under a reissued permit. Upon reissuance of this Order by the San Diego Water Board, Dischargers may need to seek re-enrollment under the revised Order.	

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on May 11, 2011.



David W. Gibson
Executive Officer

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I. DISCHARGE INFORMATION

This Order is intended to regulate residual pollutant waste discharges associated with the public display of fireworks to various receiving surface waters of the United States (Surface Waters) within the jurisdiction of the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board). The San Diego Region covers a large portion of San Diego County, portions of South Orange County, and the southwestern portion of Riverside County based on hydrologic drainage areas. In this Order the public display of fireworks refers to an entertainment feature where the public or a private group is admitted to, or permitted to, view the display or discharge of fireworks.

Public displays of fireworks (also referred to as a fireworks show or event) are conducted throughout the year at various locations within the San Diego Region as part of national and community celebrations and other special events. Located within the San Diego Region are entertainment theme parks and two major league stadiums for football and baseball that use firework displays during regular activities and special events. Additionally, fireworks displays and pyrotechnics special effects are periodically used in other venues such as business grand openings and special events, public and private school homecoming & graduation events, various sporting events and local fairs. The most significant and widespread use of fireworks displays for celebrations in the San Diego Region are for annual Fourth of July and New Year's Eve public and private events. Firework display sites on or adjacent to urban shorelines are often the preferred setting to provide public access and avoid the fire hazards associated with terrestrial display sites.

Professional pyrotechnic devices used in fireworks displays can be grouped into three general categories: 1) aerial shells (paper and cardboard spheres or cylinders filled with pyrotechnic materials), 2) low-level comet and multi-shot devices such as roman candles, and 3) set piece displays mounted on the ground. Typical firework constituents include, but are not limited to, aluminum, antimony, barium, carbon, calcium, chlorine, cesium, copper, iron, potassium, lithium, magnesium, oxidizers including nitrates, chlorates and perchlorates, phosphorus, sodium sulfur, strontium, titanium, and zinc. The chemical constituents burn at high temperatures when the firework is detonated which promotes incineration. The chemical constituents within the fireworks are scattered by the burst charge which separates them from the fireworks casing and internal shell components. A firework combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris including paper, cardboard, wires and fuses. This combustion residue can fall into surface waters. In addition un-ignited pyrotechnic material including duds and misfires can also fall into surface waters. The receiving water fallout area affected by the fireworks residue can vary depending on wind speed and direction, size of the shells, the angle of mortar placement, the type and height of firework explosions and other environmental factors. Once the fireworks residue enters a water body it can be transported to

waters and shorelines outside the fallout area due to wind shear and tidal effects. The Clean Water Act (CWA), at section 301(a), broadly prohibits the discharge of any pollutant to waters of the United States, except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Residual firework pollutant waste discharged into surface waters constitutes discharge of a pollutant from a point source within the meaning of the CWA. Therefore, coverage under an NPDES permit is required before residual firework pollutant waste can be lawfully discharged.

This Order requires implementation of Best Management Practices (BMPs) described in Section V.B of this Order to ensure the pollutant waste discharges associated with the public display of fireworks do not cause pollution or nuisance conditions in surface waters within the San Diego Region. This Order also requires post firework event monitoring and reporting as well as receiving water monitoring and reporting for discharges meeting certain specific criteria described under specific conditions in Attachment E of this Order.

II. PERMIT COVERAGE AND APPLICATION REQUIREMENTS

A. General Permit Coverage

This General Permit covers the point source discharge of residual firework pollutant waste to surface waters resulting from the public display of fireworks, including but not limited to fireworks using aluminum, antimony, barium, carbon, calcium, chlorine, cesium, copper, iron, potassium, lithium, magnesium, oxidizers including nitrates, chlorates and perchlorates, phosphorus, sodium sulfur, strontium, titanium, and zinc.

Users of fireworks containing these and other pollutant wastes for public shows or events are required to obtain coverage under this General Permit prior to the public display of fireworks.

B. Discharger Eligibility Criteria

Any person who proposes to discharge pollutant waste from the public display of fireworks to surface waters of the U.S. in the San Diego Region may submit a Notice of Intent (NOI) for coverage under this Order. The NOI may address multiple fireworks events at different locations throughout the San Diego Region. When a fireworks event(s) is hosted by one person but is operated or conducted by another person, it is the host person's duty to submit an NOI and obtain coverage under this Order. The San Diego Water Board may require the joint submission of an NOI from both the host person and the person operating the fireworks event on a case-by-case basis.

C. General Permit Application

To obtain coverage under this Order, Dischargers must submit a complete application containing the items below to the San Diego Water Board no later than 60 days prior to a fireworks event. During the period of May 11, 2011 through June 10, 2011 Dischargers must submit the complete application no later than 24 days prior to a fireworks event. The application must contain the following items:

1. A completed Notice of Intent (NOI) form shown as Attachment B signed in accordance with the signatory requirements of the Standard Provisions in Attachment D, Section V.B.1. Signatory and Certification Requirements;
2. Payment of the annual application fee, equal to the first annual fee, made payable to State Water Resources Control Board or "SWRCB"; and
3. A Fireworks Best Management Practices Plan.

The NOI, including, the application fee, and other attachments must be submitted to the following address:

CRWQCB – San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Attn: Fireworks General NPDES Order
NOTICE OF INTENT

D. Notice of Enrollment

The San Diego Water Board will review the application package for completeness and applicability to this Order. Notice of Enrollment (NOE) under this Order will be provided to the Discharger by the San Diego Water Board upon receipt of a complete NOI, Fireworks Best Management Practices Plan, and application fee. The effective enrollment date will be specified in the NOE and the Discharger is authorized to discharge residual firework pollutant waste starting on the date specified in the NOE. General Permit coverage will be effective when all of the following have occurred:

1. The Discharger has submitted a complete permit application;
2. The Fireworks Best Management Practices Plan has been accepted by the San Diego Water Board; and
3. The San Diego Water Board has issued a Notice of Enrollment (NOE).

E. Notice of Exclusion (NOEX)

The San Diego Water Board may issue a Notice of Exclusion (NOEX), which either terminates the permit coverage or requires submittal of an application for an individual permit. An NOEX is a one-page notice that indicates that the proposed Discharger is not eligible for coverage under this General Permit and states the reason why. This justification can include, but is not limited to, necessity to comply with a total maximum daily load or to protect sensitive water bodies.

F. Fees

Under this General Permit, fireworks discharges require no treatment systems to meet the terms and conditions of this Order and pose no significant threat to water quality. As such, they are eligible for Category 3 in section 2200(b) (8) of Title 23, California Code of Regulations (CCR). This category is appropriate because regulation of firework discharge under this Order incorporates best management practices (BMPs) to control potential adverse effects to beneficial uses, and this General Permit prohibits residual firework pollutant waste from causing excursions of water quality objectives. The annual fee associated with this rating can be found in section 2200(b) (8) of Title 23, CCR, which is available at <http://www.waterboards.ca.gov/resources/fees/>.

G. Terminating Coverage

To terminate permit coverage, a Discharger must submit a complete and accurate Notice of Termination (NOT). The Discharger's coverage under this General Permit terminates on the date specified in the coverage termination letter issued by the San Diego Water Board. Prior to the termination effective date, the Discharger is subject to the terms and conditions of this General Permit and is responsible for submitting the annual fee and all reports associated with this General Permit. The Discharger must submit an NOT when one of the following conditions occurs:

1. A new host has taken over responsibility of the Discharger's fireworks display activities covered under an existing NOI; or
2. The Discharger has ceased all discharges of residual firework pollutant waste for which it obtained General Permit coverage and does not expect to discharge during the remainder of this General Permit term; or
3. The Discharger has obtained coverage under an individual permit for all residual firework pollutant waste discharges to waters of the U.S. required to be covered by an NPDES permit.

III. FINDINGS

The San Diego Water Board finds:

- A. Background.** In 1972, the Federal Water Pollution Control Act [33 U.S.C. §1251 et seq. (1972)], currently referred to as the Clean Water Act (CWA), was amended to provide that the discharge of pollutants to waters of the United States from any point source is prohibited, unless the discharge is in compliance with an NPDES permit. The federal regulations allow either the United States Environmental Protection Agency (USEPA) or states with USEPA-approved programs to issue either general NPDES permits or individual NPDES permits to regulate discharges of pollutants to waters of the United States. California has an approved program.

Public displays of fireworks are conducted throughout the year at various locations within the San Diego Region. Although this Order does not precisely specify the point(s) at which fireworks residue becomes a pollutant waste, discharges from the public display of fireworks contain pollutants that have a potential to cause excursions of applicable water and sediment quality objectives. Residual firework pollutant waste discharged into surface waters constitutes discharge of a pollutant from a point source within the meaning of the CWA. Therefore, coverage under an NPDES permit is required.

With the exception of SeaWorld San Diego, discharges associated with public fireworks events have previously been unregulated in the San Diego Region by the San Diego Water Board. The Fact Sheet of this Order contains an assessment of firework event monitoring data collected in Mission Bay by SeaWorld.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policies are held to be equivalent to references to the Discharger herein.

- B. Discharge Description.** Public displays of fireworks are typically conducted over or adjacent to surface water bodies throughout the San Diego Region, including but not limited to, the San Diego River, San Diego Bay, Mission Bay, and the Pacific Ocean. Typical firework constituents include but are not limited to aluminum, antimony, barium, carbon, calcium, chlorine, cesium, copper, iron, potassium, lithium, magnesium, oxidizers including nitrates, chlorates and perchlorates, phosphorus, sodium sulfur, strontium, titanium, and zinc. The chemical constituents burn at high temperatures when the firework is detonated which promotes incineration. The chemical constituents within the fireworks are scattered by the burst charge, which separates them from the fireworks casing and internal shell components. A firework combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris including paper, cardboard, wires and fuses. This combustion residue can fall into surface

waters. In addition, un-ignited pyrotechnic material including duds and misfires can also fall into surface waters. The receiving water fallout area affected by the fireworks residue can vary depending on wind speed and direction, size of the shells, the angle of mortar placement, the type and height of firework explosions and other environmental factors. Once the fireworks residue enters a water body it can be transported to waters and shorelines outside the fallout area due to wind shear and tidal effects.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). Section 122.28(a)(1) of Title 40 of the Code of Federal Regulations [40 CFR. §122.28(a)(1)] allows NPDES permits to be written to cover a category of discharges within the State political boundaries as a general NPDES permit. USEPA Region 9 has granted the San Diego Water Board the authority to issue general NPDES permits.

This Order shall serve as a General NPDES permit for point source discharges of residual firework pollutant waste from public firework events. This Order also serves as general Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The San Diego Water Board developed the requirements in this Order based on available monitoring data and other available information related to the effects, characteristics, and regulation of firework pollutant waste discharges. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through F are also incorporated into this Order

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations¹, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. This Order does not contain technology based effluent limitations. There are currently no applicable Effluent Limitation Guidelines (technology based requirements established by USEPA) for discharges associated with public displays of fireworks. The provisions of this Order require implementation of BMPs to control and abate the discharge of pollutants to surface waters. Dischargers

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

enrolled under this Order are expected to comply with all water and sediment quality objectives through implementation of BMPs.

G. Water Quality-Based Effluent Limitations (WQBELs). Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 CFR mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Section 122.44(k)(3) of 40 CFR allows the use of other requirements such as BMPs in lieu of numeric effluent limits if the latter are infeasible. The San Diego Water Board finds that numeric water quality based effluent limits for fireworks residual pollutant waste discharges are infeasible because:

1. This General Permit regulates discharges of residual pollutant wastes which are firework constituents or breakdown products that are present after the use of the fireworks for public display. Therefore, the exact residual pollutant waste levels in the discharge are immeasurable and undefined; and
2. It would be impractical to provide effective treatment, given the numerous short duration intermittent residual firework pollutant releases to surface waters at many different locations.

The discharge specifications contained in this General Permit are narrative and include requirements to develop and implement a Firework Best Management Practices Plan that describes appropriate BMPs, as well as requirements to comply with receiving water limitations.

The BMPs required herein constitute Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) and are intended to: 1) minimize the area and duration of adverse effects caused by the discharge of firework pollutant wastes in the firing range and adjacent surface water(s) and 2) allow for restoration of water quality and protection of beneficial uses of the receiving waters to pre-fireworks discharge quality following completion of a public fireworks display event.

H. Water Quality Control Plans. The San Diego Water Board adopted a Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) on September 8, 1994, which was subsequently approved by the State Water Board on December 13, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives in all receiving waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with

certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the receiving waters within the San Diego Region are listed in Table 4. Requirements of this Order implement the Basin Plan.

Table 4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
Various	Coastal Waters (Pacific Ocean, Enclosed Bays and Estuaries, Harbors, and Lagoons)	Industrial service supply (IND), navigation (NAV), contact water recreation (REC1), non-contact water recreation (REC2), commercial and sport fishing (COMM), biological habitats of special significance (BIOL), estuarine habitats (EST) wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), marine habitat (MAR), Aquaculture (AQUA), migration of aquatic organisms (MIGR), spawning (SPWN), and shellfish harvesting (SHELL).
Various	Inland Surface Waters	Municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), industrial process supply (PROC), ground water recharge (GWR), hydropower generation (POW), contact water recreation (REC1), non-contact water recreation (REC2), biological habitats of special significance (BIOL), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), spawning (SPWN).

- I. California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 5. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
Various	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

Section III.E.1 of the Ocean Plan provides that waste shall not be discharged to areas designated as being of special biological significance (ASBS). Section III.E.2. provides that the Regional Water Boards may, however, approve waste discharge requirements or recommend certification for limited-term (i.e. weeks or months) activities in ASBS. Limited term activities may result in temporary and

short-term changes in existing water quality. Water quality degradation shall be limited to the shortest possible time. The activities must not permanently degrade water quality or result in water quality lower than that necessary to protect existing uses, and all practical means of minimizing such degradation shall be implemented.

This Order establishes requirements for the continued discharge of residual firework pollutant waste by the La Jolla Community Fireworks Foundation into the Pacific Ocean offshore of Scripps Park approximately one-quarter mile south from the La Jolla ASBS in San Diego County and the City of Laguna Beach into the Heisler Park ASBS in Orange County.

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

- J. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
- K. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the San Diego Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- L. Sediment Quality Objectives.** On September 16, 2008 the State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality* (SWRCB Sediment Quality Control Plan). The SWRCB Sediment Quality Control Plan became effective on August 25, 2009. The SWRCB Sediment Quality Control Plan establishes 1) narrative sediment quality objectives for benthic community protection from exposure to contaminants in sediment and to protect human health, and 2) a program of implementation using a multiple lines of evidence approach to interpret the narrative sediment quality objectives.

- M. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules and interim effluent limitations and/or discharge specifications.
- N. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- O. Stringency of Requirements for Individual Pollutants.** This Order requires the implementation of BMPs to protect water quality and beneficial uses.
- P. Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
- Q. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed.

- R. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.
- S. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- T. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The San Diego Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- U. Provisions and Requirements Implementing State Law.** Certain provisions/requirements of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- V. Executive Officer Delegation of Authority.** The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to Water Code section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under Water Code section 13223 or this Order explicitly states otherwise.
- W. Notification of Interested Parties.** The San Diego Water Board has notified interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- X. Consideration of Public Comment.** The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

THEREFORE, IT IS HEREBY ORDERED, that in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

IV. DISCHARGE PROHIBITIONS

- A.** The discharge of residual firework pollutant waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050, is prohibited.
- B.** The discharge of residual firework pollutant waste shall not cause, have a reasonable potential to cause, or contribute to exceedances of any applicable criterion promulgated by USEPA pursuant to section 303 of the CWA, or water quality objective adopted by the State Water Board or San Diego Regional Water Board.
- C.** The discharge of residual firework pollutant waste to designated Areas of Special Biological Significance (ASBS), is prohibited except as provided in 1) Section VII.C.2, *Special Provisions for Discharges into La Jolla and Heisler Park ASBS* of this Order or 2) an exception issued by the State Water Board pursuant to the provisions of the Ocean Plan.
- D.** The discharge of residual firework pollutant waste to waters of the United States within the San Diego Region is prohibited unless an NOI has been submitted, and the San Diego Water Board has provided the Discharger with a written Notice of Enrollment identifying the discharge subject to waste discharge requirements.
- E.** Compliance with Discharge Prohibitions contained in the Basin Plan is required as a condition of this Order.
- F.** Discharges of residual firework pollutant waste in a manner, or to a location which have not been specifically regulated by waste discharge requirements of this Order are prohibited.

V. DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Not Applicable

B. Fireworks Best Management Practices Plan (FBMPP)

The Discharger shall prepare and implement a Fireworks Best Management Practices Plan (FBMPP) to prevent or reduce the discharge of pollutants associated with the public display of fireworks. The FBMPP shall address, at a minimum, the following elements:

1. Whenever practicable and economically feasible, the Discharger shall consider the use of alternative fireworks produced with new pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters.
2. Whenever practicable and feasible, the Discharger shall design the firing range, or consider alternative firing ranges, to eliminate or reduce residual firework pollutant waste discharges to waters of the United States.
3. As soon as practicable, and no later than 24 hours following a public display of fireworks, the Discharger, in addition to complying with title 19 of the California Code of Regulations, section 1003, shall, to the extent practical, collect, remove, and manage particulate matter and debris from ignited and un-ignited pyrotechnic material including aerial shells, stars (small pellets of composition that produce color pyrotechnic effects), paper, cardboard, wires and fuses-found during inspection of the entire firing range and adjacent affected surface water(s).
4. If the fireworks are launched or ignited on barges or floating platforms, the fireworks and fireworks equipment shall be setup, discharged and taken down in accordance with the laws and regulations applying to that display by a public display operator licensed by the State of California. All required permits, licenses and approvals shall be obtained from the authorities having jurisdiction over the fireworks display, and the parties responsible under applicable law and regulation shall comply with the requirements and conditions of those permits and licenses. All equipment used to hold and launch the fireworks shall be secured properly in accordance with applicable laws and regulations and in such a way as to minimize the risk that the equipment and fireworks would fall into the water. Barges and floating platforms shall be inspected for leaks and other potential safety issues. Other than system firing cables and common or grounding wires intended to be recovered after the display, electric igniter wires used to trigger the fireworks shall be secured to minimize the risk that the wires would fall into the water during or after the discharge. As soon as practicable, and no later than 24

- hours following a public display of fireworks, the decks of each barge or floating platform that contained fireworks shall be raked or swept to gather fireworks debris and prevent it from being deposited into the water.
5. Immediately following a public display of fireworks, all hazardous fireworks waste, including duds, resulting from the set-up, firing, and strike of the public display, including live pyrotechnics waste, shall be handled and managed in accordance with applicable fireworks and hazardous waste laws and regulations.
 6. All non-hazardous solid waste resulting from the set-up, firing, and strike of the public display, including wires, boxes, and packaging, shall be collected to the extent practicable and properly disposed of.
 7. Fireworks shall be packaged, transported, stored, set-up, and handled in accordance with California Code of Regulations, Title 19, Division 1, Chapter 6, *Fireworks* and Title 22, Chapter 33, *Best Management Practices for Perchlorate Materials* in order to prevent or minimize firework pollutant wastes from entering surface waters.
 8. Residual firework pollutant waste discharges shall be located a sufficient distance from areas designated ASBS to assure maintenance of natural water quality conditions in these areas, except as provided in Section VII.C.2, *Special Provisions for Discharges into La Jolla and Heisler Park ASBS* of this Order.

C. Public Fireworks Display Log

The Discharger shall maintain a written log for each public fireworks display event. The log shall be completed within 5 days following each public fireworks event and shall be made available to the San Diego Water Board upon request. The log shall contain the following information:

1. The name of the organization hosting the fireworks event, together with the names and license numbers of the pyrotechnic operators actually in charge of the display;
2. The date, time, and duration of the public fireworks event;
3. The location of the public fireworks event;
4. The affected receiving waters;
5. Certification that the FBMP was fully implemented; and
6. The amounts of fireworks debris collected, the dates, times and visual monitoring observations noted from after event firing range inspections and

any other pertinent information.

VI. RECEIVING WATER LIMITATIONS

A. Surface Waters

The discharge shall at all times be in conformance with applicable water quality standards and shall not cause an excursion above any applicable narrative or numeric water quality objective, including but not limited to all applicable provisions contained in:

1. The San Diego Water Board's *Water Quality Control Plan for the San Diego Basin* (Basin Plan), including beneficial uses, water quality objectives, and implementation plans;
2. State Water Board plans for water quality control including the:
 - a) Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries (Thermal Plan), and
 - b) The *California Ocean Plan* (Ocean Plan), including beneficial uses, water quality objectives, and implementation plans;
3. State Water Board policies for water and sediment quality control including the
 - a) Water Quality Control Policy for the Enclosed Bays and Estuaries of California,
 - b) Policy for Implementation of Toxics Standards for Inland Surface Waters, and Enclosed Bays, and Estuaries of California;
 - c) State Water Board's Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality which includes the following narrative objectives:
 - (1) Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities; and
 - (2) Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health.
 - d) The *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (State Water Board Resolution No. 68-16) and
4. Priority pollutant criteria promulgated by the U.S. Environmental Protection Agency (U.S. EPA) through the:

- a) *National Toxics Rule (NTR)*² (promulgated on December 22, 1992 and amended on May 4, 1995) and
- b) *California Toxics Rule (CTR)*^{3, 4}

B. Groundwater - Not Applicable

VII. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. San Diego Water Board Standard Provisions. The Discharger shall comply with the following provisions:
 - a. The Discharger shall comply with all requirements and conditions of this Order. Any permit non-compliance constitutes a violation of the Clean Water Act (CWA) or the California Water Code (CWC) and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of an application for permit renewal, modification, or reissuance.
 - b. The Discharger shall comply with all applicable federal, state, and local laws and regulations for handling, transport, treatment, or disposal of waste or the discharge of waste to waters of the state in a manner which causes or threatens to cause a condition of pollution, contamination or nuisance as those terms are defined in CWC 13050.
 - c. No discharge of waste into waters of the state, whether or not the discharge is made pursuant to waste discharge requirements (WDR) , shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights.
 - d. For the purposes of this Order, the term “permittee” used in parts of 40 CFR incorporated into this Order by reference and/or applicable to this Order shall have the same meaning as the term “Discharger” or “Enrollee” used elsewhere in this Order.
 - e. This Order expires on May 31, 2016, after which, the terms and conditions of this Order are automatically continued pending issuance of a new WDR, provided that all requirements of USEPA’s NPDES regulations at

² 40 CFR 131.36

³ 65 Federal Register 31682-31719 (May 18, 2000), adding Section 131.38 to 40 CFR

⁴ If a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies

40 CFR 122.6 and the State's regulations at CCR Title 23, Section 2235.4 regarding the continuation of expired Orders and waste discharge requirements are met.

- f. A copy of this Order shall be made available to all personnel/staff (including field staff) involved with the compliance of this Order.
- g. The Discharger shall comply with any interim limitations established by addendum, enforcement action, or revised waste discharge requirements that have been or may be adopted by the San Diego Water Board.
- h. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges of fireworks pollutant wastes, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- i. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, discharge specification, or receiving water limitation of this Order, the Discharger shall notify the San Diego Water Board by telephone at (858) 467-2952 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the San Diego Water Board waives confirmation. The written notification shall contain a description of the noncompliance and its cause; the period of non-compliance including exact dates and times, and if noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- j. The Discharger is required to retain records, including all monitoring information and copies of all reports required by this Order, for five years unless directed otherwise by the San Diego Water Board.
- k. This Order may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.
- l. Enrollment in this Order is temporary. Dischargers enrolled in this Order planning to discharge fireworks related waste after the expiration date of June 16, 2016 may be subject to new prohibitions or requirements based on the re-issuance of this Order after June 16, 2016.

- m. The enrollee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order and the Notice of Enrollment from the San Diego Water Board, including such accelerated or additional monitoring as may be necessary to determine the nature, and effect of the non-complying discharge.
- n. This Order or the Notice of Enrollment from the San Diego Water Board, may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
 - (1) Violation of any terms or conditions of this Order or the Notice of Enrollment from the San Diego Water Board;
 - (2) Obtaining enrollment under this Order, or a Notice of Enrollment from the San Diego Water Board, by misrepresentation or failure to disclose fully all relevant facts;
 - (3) A change in any condition that requires either a temporary or permanent reduction or elimination of the discharge subject to waste discharge requirements; or
 - (4) A finding that monitoring "indicator" pollutants listed in this Order do not ensure compliance with water quality criteria or objectives for the pollutants expected to be represented by the "indicator" pollutants.
- o. The filing of a request by the Discharger for modification, revocation and reissuance, or termination of this Order or an associated discharge Notice of Enrollment from the San Diego Water Board, or a notification of planned change in or anticipated noncompliance with this Order or discharge Notice of Enrollment does not stay any condition of this Order or the Notice of Enrollment from the San Diego Water Board.
- p. Notwithstanding Provision 2.k. above, if any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the San Diego Water Board may institute proceedings under these regulations to modify or revoke and reissue this Order to conform to the toxic effluent standard or prohibition.

- q. In addition to any other grounds specified herein, this Order or a Notice of Enrollment from the San Diego Water Board shall be modified or revoked at any time if, on the basis of any data, the San Diego Water Board determines that continued discharges may cause unreasonable degradation of the aquatic environment.
- r. The San Diego Water Board or the Director of the USEPA may require any person requesting enrollment under this Order or subject to waste discharge requirements under this Order to apply for and obtain an individual NPDES permit. Cases where an individual NPDES permit may be required include but are not limited to those described in 40 CFR 122.28 (b) (3).
- s. It shall not be a defense for the enrollee in an enforcement action that effluent limitation violations are a result of analytical variability rendering the results inaccurate. The validity of the testing results, whether or not the enrollee has monitored or sampled more frequently than required by this Order, shall not be a defense to an enforcement action.
- t. The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order which has a reasonable likelihood of adversely affecting human health or the environment.
- u. For the purposes of this Order, the term permit, general permit, and WDR, shall have the same meaning as the term Order used elsewhere in this Order.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP and future revisions thereto in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

Order No. R9-2011-0022 may be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations or adoption of new regulations by the State Water Board or San Diego Water Board, including revisions to the Basin Plan.

2. Special Provisions for Discharges into La Jolla and Heisler Park ASBS

Discharges of residual fireworks pollutant waste by the La Jolla Community Fireworks Foundation into the Pacific Ocean offshore of Scripps Park

approximately one-quarter mile south from the La Jolla ASBS, and by the City of Laguna Beach into the Heisler Park ASBS may continue subject to the following conditions:

- a. The residual firework pollutant waste discharges shall be limited to those resulting from one Fourth of July celebration public fireworks display event per calendar year.
- b. The net explosive weight of fireworks used in the public fireworks display event shall not exceed 1,000 pounds of pyrotechnic material.
- c. The areal extent of the firing range in the ASBS shall be limited to the maximum extent practicable to prevent or reduce residual firework pollutant waste discharges in the ASBS.
- d. The residual firework pollutant waste discharges shall not permanently alter natural water quality conditions⁵ in the ASBS receiving waters. Temporary excursions from natural ocean water quality conditions resulting from residual firework pollutant waste discharges within any portion of the firing range located in the ASBS are permissible if beneficial uses are protected.
- e. The residual firework pollutant waste discharges shall comply with all other applicable provisions, including water quality standards, of the Ocean Plan.

3. Special Provisions for SeaWorld San Diego Discharges

- a. The October 15, 2009 Report of Waste Discharge submitted by Sea World Inc. is deemed complete for the purpose of enrollment under this Order. The enrollment date will be effective upon the effective date of this Order and SeaWorld San Diego is authorized to discharge residual firework pollutant waste starting on this date pursuant to the requirements of this Order. The requirements of this Order will supersede the requirements of SeaWorld San Diego's Order No. R9-2005-0091, NPDES No. CA0107336, for residual firework pollutant waste discharges upon the effective date of this Order.
- b. SeaWorld San Diego shall submit the filing fee for coverage under this Order, specified in Section II.F of this Order, no later than June 1, 2011.
- c. SeaWorld San Diego shall prepare and submit a Fireworks Best Management Practices Plan containing the information specified in

⁵ Natural ocean water quality will be determined by the Southern California Water Research Project (SCCWRP) ASBS Monitoring Program which is designed to define natural water quality in ASBS areas at selected reference sites.

Section V.B. of this Order no later than September 1, 2011.

- 4. Special Studies, Technical Reports and Additional Monitoring Requirements – Not Applicable**
- 5. Construction, Operation and Maintenance Specifications- Not Applicable**
- 6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable**
- 7. Other Special Provisions – Not Applicable**
- 8. Compliance Schedules – Not Applicable**

VIII. COMPLIANCE DETERMINATION

This Order requires the use of minimum stipulated BMPs to control and abate the discharge of pollutant wastes from public fireworks events to surface waters in the San Diego Region. Proper implementation of the BMPs will assure the protection of water and sediment quality within the receiving waters. Dischargers enrolled under this Order are expected to comply with all water and sediment quality objectives through the implementation of BMPs. Compliance will be determined by evaluating the proper implementation of the minimum stipulated BMPs and their effectiveness in preventing and minimizing pollutant waste loading from public fireworks events to surface waters. Compliance will also be evaluated using information obtained under the monitoring and reporting program of this Order.

ATTACHMENT A – DEFINITIONS

Acute Toxicity

Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\frac{96\text{-hr LC}}{50\%}}$$

Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log(100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Aerial Shell

A cylinder or spherical cartridge containing a burst charge and pyrotechnic or non-pyrotechnic effects, a fuse, a black powder lift charge and is fired from a mortar. [19 CCR § 980 (a)]

Alternative Fireworks

Refers to fireworks produced with new pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters.

Areas of Special Biological Significance (ASBS)

Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality

is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Barge

Water vessel from which fireworks are launched or fired.

Best Management Practices (BMPs)

Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Break

An individual burst from an aerial shell, producing either a visible or audible effect or both, and may consist of a single burst or multiple effects. [19 CCR § 980 (b) (7)]

Carcinogenic

Pollutants are substances that are known to cause cancer in living organisms.

Chronic Toxicity

This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix II.

Contamination

“Contamination” means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. “Contamination” includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected. [CWC § 13050(k)]

Daily Discharge

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Degrade

Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ)

Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

Downstream Ocean Waters

Waters downstream with respect to ocean currents.

Dud

A pyrotechnic item which leaves the mortar and returns to earth without producing the intended burst or effect. [19 CCR § 980 (d) (4)]

Enclosed Bays

Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to Mission Bay, and San Diego Bay.

Estuaries

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuaries do not include inland surface waters or ocean waters.

Fallout Area

The area in which firework debris and pollutants fall after a pyrotechnic device is detonated. The extent of the fallout area depends on the wind and the angle of mortar placement.

Fireworks

"Fireworks" means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment.

The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks, torpedoes, skyrockets, roman candles, rockets, Daygo bombs, sparklers, party poppers, paper caps, chasers, fountains, smoke sparks, aerial bombs, and fireworks kits. (California Health and Safety Code § 12511)

Fireworks Event (also referred to as Public Display of Fireworks)

Fireworks event means an entertainment feature where the public or a private group is admitted or permitted to view the display or discharge of fireworks. (22 CCR § 67384.3)

Firing Range

The firing range is that area over which fireworks may travel by design or accident and upon which firework pollutant waste may fall. It includes the fireworks launching area and adjacent shorelines, quays, docks and the fireworks fallout area.

Ground Display Piece

A pyrotechnic device that functions on the ground (as opposed to an aerial shell that functions in the air) and that includes fountains, wheels, and set pieces.

Inland Surface Waters

All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Kelp Beds

For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera *Macrocystis* and *Nereocystis*. Kelp beds include the total foliage canopy of *Macrocystis* and *Nereocystis* plants throughout the water column.

Mariculture

The culture of plants and animals in marine waters independent of any pollution source.

Method Detection Limit (MDL)

The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B.

Minimum Level (ML)

The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Misfire

A pyrotechnic item which fails to function as designed after initiation. [19 CCR § 980 (m) (5)]

Mortar

A cylinder that is used to hold and fire public display or special effects pyrotechnic items or compositions. [19 CCR § 980 (m) (8)]

Multiple Break

Aerial shell which has two or more breaks. [19 CCR § 980 (m) (11)]

Natural Light

Reduction of natural light may be determined by the San Diego Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the San Diego Water Board.

Net Explosive Weight

Net explosive weight” means the weight of all pyrotechnic compositions, explosives material, and fuse only. (22 CCR § 67384.3)

Not Detected (ND)

Those sample results less than the laboratory’s MDL.

Nuisance

“Nuisance” means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. [CWC § 13050(m)]

Ocean Waters

The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

Person

Person includes any city, county, district, the state, and the United States, to the extent authorized by federal law. [CWC 13050(c)]. Person also includes any citizen, domiciliary, political agency, or entity of California. [CWC 13050(o)].

Pollutant

“Pollutant” means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean: (a) Sewage from vessels; or (b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources. NOTE: Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials. Examples of materials not covered include radium and accelerator-produced isotopes. See *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1 (1976). (40 CFR 122.2)

Pollution

“Pollution” means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (A) The waters for beneficial uses. (B) Facilities which serve these beneficial uses. “Pollution” may include “contamination.” [CWC § 13050(l)]

Pyrotechnic operator

Pyrotechnic operator means any licensed pyrotechnic operator, who by examination, experience, and training, has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted. (22 CCR § 67384.3)

Pyrotechnic Compositions

Pyrotechnic compositions means any combination of chemical elements or chemical compounds capable of burning independently of the oxygen of the atmosphere. (California Health and Safety Code § 12525)

Pollutant Minimization Program (PMP)

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table B pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The San Diego Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level

The ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the San Diego Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Roman Candle

A heavy paper or cardboard tube containing pellets of pyrotechnic composition which, when ignited, are expelled into the air at several second intervals. (19 CCR §980 (r) (3))

Salute

An aerial shell as well as other pyrotechnic items whose primary effects are detonation and flash of light. [19 CCR § 980 (s) (1)]

San Diego Water Board

As used in this document the term "San Diego Water Board" is synonymous with the term "Regional Board" as defined in Water Code section 13050(b) and is intended to refer to the California Regional Water Quality Control Board for the San Diego Region as specified in Water Code Section 13200.

Shellfish

Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference

Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Star

“Star” means a small pellet of composition that produces a pyrotechnic effect. A single aerial firework shell could contain several hundred stars (22 CCR § 67384.3)

State Water Quality Protection Areas (SWQPAs)

Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution Nos. 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

Toxicity Reduction Evaluation (TRE)

A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Waste

CWC section 13050(d) provides that “Waste” includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Waters of the State

Any water, surface or underground, including saline waters within the boundaries of the State (CWC section 13050 (e)). The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition. Under this definition, a MS4 is always considered to be a Waters of the State.

Waters of the United States

Waters of the United States are defined as: “(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate “wetlands;” (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs,

prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purpose by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA." (40 CFR 122.2)

ATTACHMENT B – NOTICE OF INTENT

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

NOTICE OF INTENT

**ORDER NO. R9-2011- 0022
NPDES NO. CAG999002**

**GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT FOR RESIDUAL FIREWORKS POLLUTANT WASTE DISCHARGES
TO WATERS OF THE UNITED STATES IN THE SAN DIEGO REGION FROM
THE PUBLIC DISPLAY OF FIREWORKS**

I. NOTICE OF INTENT STATUS

Mark only one Item:: <input type="checkbox"/> New Application <input type="checkbox"/> Change of Information: WDID# _____
<input type="checkbox"/> Change of Discharger or Responsibility WDID# _____

II. STIPULATION OF APPLICABILITY

<input type="checkbox"/> Discharger Name has reviewed the eligibility criteria of the subject Order as stated below and hereby certifies that the criteria is met.
Eligibility Criteria Any person who proposes to discharge pollutant waste from the public display of fireworks to surface waters in the San Diego Region may submit a Notice of Intent (NOI) for coverage under this Order. When a fireworks event is hosted by one person but is operated or conducted by another person, it is the host's duty to submit an NOI and obtain coverage under the Order. The San Diego Water Board may require the joint submission of an NOI from both the host and the person operating the fireworks event on a case-by-case basis.
<input type="checkbox"/> Discharger Name has reviewed the Order and hereby certifies that:
1. Discharger Name understands the requirements of the Order; and
2. Discharger Name will comply with all terms, conditions, and requirements of the Order.

III. DISCHARGER INFORMATION

Discharger Name:			
Mailing Address			
City	County	State	ZIP
Contact Person Name and Title			
Contact Person e-mail		Contact Person Phone	

IV. BILLING INFORMATION

<input type="checkbox"/> Same as Discharger Information (Enter information <u>only</u> if different from Section III above)			
Discharger Name:			
Mailing Address			
City	County	State	ZIP
Contact Person Name and Title			
Contact Person e-mail		Contact Person Phone	

V. FIREWORKS BEST MANAGEMENT PRACTICES PLAN

Has a Fireworks Best Management Practices Plan been prepared pursuant to the requirements of this Order? <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> If yes, check the box and attach a copy of the Fireworks Best Management Practices Plan to this form.

VI. APPLICATION FEE

Have you included payment of the filing fee (for first-time enrollees only) with this submittal? <input type="checkbox"/> Yes <input type="checkbox"/> No
The initial fee and annual fee are based upon the type of pollutants to be discharged or potentially discharged.
Make checks payable to " State Water Resources Control Board " and include "Fireworks General NPDES Order" in the check memo field.
Category 3 Lowest Threat to Water Quality Discharges that require minimal or no treatment systems to meet limits and pose no significant threat to the environment in accordance with California Code Of Regulations Title 23, Division 3, Chapter 9, Waste Discharge Reports And Requirements Article 1, Fees. (Fees amounts are subject to change. The fee for enrollment under this Order as of September 23, 2010 is \$1,200 plus \$252 surcharge = \$1,452)

VII. CERTIFICATION

<i>I certify under penalty of law that the information provided in this application and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the criteria for eligibility will be complied with.</i>	
Printed Name:	
Signature*:	Date:
Title:	

* The appropriate person must sign the application form. See Standard Provision V.B.1 Signatory and Certification Requirements. Acceptable signatures are:

1. for a corporation, a principal executive officer of at least the level of senior vice-president;
2. for a partnership or individual (sole proprietorship), a general partner or the proprietor;
3. for a governmental or public agency, either a principal executive officer or ranking elected/appointed official.

Submit the NOI and application fee to the following address:

CRWQCB – San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Attn: Fireworks General NPDES Order
NOTICE OF INTENT

SAN DIEGO WATER BOARD USE ONLY

WDID:	Staff Initials:	Status: <input type="checkbox"/> Complete <input type="checkbox"/> Incomplete <input type="checkbox"/> Withdrawn <input type="checkbox"/> Pending Additional Information
Date NOI Received:	Check No.:	
Date NOI Processed:	Fee Amount Received: \$	
CIWQS Place ID:	CIWQS Reg. Meas. ID:	
Comments:		

**INSTRUCTIONS FOR COMPLETING THE
NOTICE OF INTENT**

**WATER QUALITY ORDER NO. R9-2011- 0022
NPDES NO. CAG999002**

**GENERAL NPDES PERMIT FOR RESIDUAL FIREWORKS POLLUTANT WASTE
DISCHARGES TO WATERS OF THE UNITED STATES IN THE SAN DIEGO REGION
FROM PUBLIC DISPLAY OF FIREWORKS**

These instructions are intended to help you, the Discharger, to complete the Notice of Intent (NOI) form for the General National Pollutant Discharge Elimination System (NPDES) permit. **Please type or print clearly when completing the NOI form.** For any field, if more space is needed, submit a supplemental letter with the NOI.

Send the completed and signed form along with the filing fee and supporting documentation to the California Regional Water Quality Control Board, San Diego Region.

Section I – Notice of Intent Status

Indicate whether this request is for the first time coverage under this General Permit or a change of information for the discharge already covered under this General Permit. For a change of information or ownership, please supply the eleven-digit Waste Discharge Identification (WDID) number for the discharge.

Section II – Stipulation of Applicability

The Discharger must review the eligibility criteria for enrollment under the Order and certify that the Discharger meets the qualifications for enrollment. The Discharger must acknowledge that they have reviewed, understand, and will comply with the terms, conditions, and requirements of the Order. Fill in all of the Discharger Name and check the appropriate boxes to certify that the Discharger understands and accepts these stipulations.

Section III – Discharger Information

- A. Enter the name of the Discharger.
- B. Enter the mailing address, including street number and street name, where correspondence should be sent (P.O. Box is acceptable).
- C. Enter the city that applies to the mailing address given.
- D. Enter the county that applies to the mailing address given.
- E. Enter the state that applies to the mailing address given.
- F. Enter the zip code that applies to the mailing address given.
- G. Enter the name (first and last) and title of the contact person.
- H. Enter the email address of the contact person.

I. Enter the daytime telephone number of the contact person.

Section IV – Billing Address

Check the box if the Billing Information is the same as the Discharger Information.
Enter other information **only** if it is different from Section III above.

- A. Enter the name (first and last) of the person who will be responsible for the billing.
- B. Enter the billing address, including street number and street name, where the billing should be sent (P.O. Box is acceptable).
- C. Enter the city that applies to the billing address.
- D. Enter the county that applies to the billing address.
- E. Enter the state that applies to the billing address.
- F. Enter the zip code that applies to the billing address.
- G. Enter the name and title of the person responsible for billing.
- H. Enter the email address of the person responsible for billing.
- I. Enter the daytime telephone number of the person responsible for billing.

Section V – Fireworks Best Management Practices Plan

The Discharger must prepare and complete a Fireworks Best Management Practices Plan (FBMPP). The minimum contents of FBMPP are specified in the permit under item V.B of the Order. The Discharger must ensure that the operator(s) and all other appropriate personnel are familiar with the FBMPP contents before conducting a public display of fireworks covered under this Order.

Section VI – Application Fee

The amount of Annual fee shall be based on Category 3 discharge specified in Section 2200(b)(8) of Title 23, California Code of Regulations. Fee information can be found at <http://www.waterboards.ca.gov/resources/fees/>. Check the YES box if you have included payment of the annual fee. Check the NO box if you have not included this payment.

NOTE: You will be billed annually and payment is required to enroll or continue coverage.

Section VII– Certification

- A. Print the name of the appropriate official. For a municipality, State, federal, or other public agency, this would be a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of USEPA).
- B. The person whose name is printed above must sign and date the NOI.
- C. Enter the title of the person signing the NOI.

**ATTACHMENT C – PUBLIC DISPLAY OF FIREWORKS POST EVENT REPORT
FORM**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

POST FIREWORKS DISPLAY REPORT

This form shall be completed no later than thirty (30) days following a public display of fireworks event and made available to the San Diego Water Board upon request. Reports shall be submitted to the San Diego Water Board in accordance with the schedule outlined in Section X.B.3 of the Monitoring and Reporting Program.

Completed forms may be submitted electronically on compact disk or by hard copy to the San Diego Water Board office. The San Diego Water Board may accept electronic submission of this form (Check with the San Diego Water Board before submitting electronically).

Name of Organization Hosting the Event		WDID No.	
Contact Person for Organization Hosting the Event: Name: Phone Number: Email:			
Location of Event – Address and GPS Coordinates		Name of Receiving Water(s)	
Date of Display	Time of Display FROM .M to .M		
Map. Attach a map or diagram identifying the firing range, adjacent shorelines, quays, and docks, any other appropriate features of the firing range and adjacent affected surface water(s). The firing range is that area over which fireworks may travel by design or accident and upon which firework pollutant waste may fall. It includes the fireworks launching area and adjacent shorelines, quays, docks and the fireworks fallout area.			
Name and License No. of Pyrotechnic Operators			
1.			
2.			
3.			

Particulars of Display*						Low Level Items*		Ground Displays*	
Shell Size	No. Single Breaks	No. Multi Breaks	Shell Size	No. Single Breaks	No. Multi Breaks	Type	Qty	Type	Qty
25 mm			7"			MINES		SETS	
80 mm			8"			ROMANS		DEVICES	
2"			9"			COMETS			
3"			10"			CAKES			
4"			11"						
5"			12"						
6"									
Net Explosive Weight:									
Were alternative fireworks used? If so, indicate which fireworks were environmentally friendly.									
Defective Shells - List Manufacturer's Name, Size Of Shell, And Malfunction.*									
Were the entire firing range (including the fireworks launching area, adjacent shorelines, quays, docks and the fireworks fallout area), barge(s) (if used) and adjacent surface water(s) inspected and cleaned of particulate matter and debris from ignited and un-ignited pyrotechnic material within 24 hours following the display?									
<input type="checkbox"/> Yes Date _____ Time _____ <input type="checkbox"/> No If no, explain:									
Amount of debris collected from the firing range: _____ lbs dry weight									
Amount of floating debris collected from adjacent surface water(s): _____ lbs wet weight _____ lbs dry weight (if known)									
<i>I certify under penalty of law that the information provided in this application and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the criteria for eligibility will be complied with.</i>									

Printed Name:	
Signature:	Date:
Title:	

*May attach a copy of the Pyrotechnic Operator Post Display Report submitted to the Office of the State Fire Marshall to satisfy this requirement.

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger shall comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.411.)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.51.)

F. Inspection and Entry

The Discharger shall allow the San Diego Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Water Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the San Diego Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i).)
4. The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions – Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance

- I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
 3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger

and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

- Y. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- Z. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

AA. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

BB. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

CC. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the San Diego Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Water Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the San Diego Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.1.a, V.B.1.b, V.B.1.c, V.B.2, V.B.3, and V.B.4 below. (40 C.F.R. § 122.41(k).)
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively. (40 C.F.R. § 122.22(a)(2).)
 - c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic

unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3)).

2. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
3. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the San Diego Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(i).)
4. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

- b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the

Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

DD. The San Diego Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities – Not Applicable

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 122.48 of Title 40 of the Code of Federal Regulations (40 CFR 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the San Diego Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California laws and regulations.

This Monitoring and Reporting Program is designed to address the two key questions shown below. It also encourages Dischargers to establish or join monitoring coalitions for residual firework pollutant discharges to Mission Bay and San Diego Bay with the regulated community discharging to these water bodies.

Question No. 1: Is the Discharger adequately implementing BMPs specified in this Order and in the approved Firework Best Management Practices Plan?

Question No. 2: For discharges to Mission Bay and San Diego Bay, are the BMPs specified in this Order and the Discharger's approved Firework Best Management Practices Plan adequate to prevent an exceedance of the receiving water and sediment quality limitations of this Order?

I. GENERAL MONITORING PROVISIONS

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. Another waste stream, body of water, or substance shall not dilute the monitored discharge.
- B.** Water monitoring must be conducted according to USEPA test procedures approved under 40 CFR section 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act as amended, unless other test procedures are specified in this Order or by the San Diego Water Board. Monitoring for total residual chlorine, total dissolved solids, temperature, and pH may be done using an appropriate field measurement device.
- C.** Sediment monitoring must be conducted according to the State Water Resources Control Board's Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (Effective August 25, 2009), Section V, Benthic Community Protection (SWRCB Sediment Quality Control Plan).
- D.** If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR section 136, or as specified in this Order or by the appropriate San Diego Water Board, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the Discharger's Annual Report. The increased frequency of monitoring shall also be reported.

- E. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order.
- F. Use of flow measurement devices and methods shall be consistent with industry practices. All monitoring instruments and devices used by the Discharger to fulfill the monitoring program shall be properly maintained and calibrated to ensure reliability and accuracy.
- G. If laboratory services are used, records and monitoring information shall include:
 - 1. The date, exact location, and time of sampling or measurements;
 - 2. The name(s) of individual(s) who performed the sampling or measurements;
 - 3. The date(s) analysis were performed;
 - 4. The name(s) of the laboratory and individual(s) who performed the analyses;
 - 5. The analytical techniques or methods used; and
 - 6. The results of such analyses.

II. MONITORING LOCATIONS

Each Discharger shall establish monitoring locations within the public firework event firing range and adjacent affected surface waters to demonstrate adequate implementation of the BMPs specified in this Order and in the approved Firework Best Management Practices Plan. For discharges to Mission Bay or San Diego Bay each Discharger, classified as a Category 1 Discharger under this Order, or Coalition shall also establish receiving water and sediment monitoring locations to demonstrate compliance with the receiving water limitations of this Order.

III. FIREWORKS BEST MANAGEMENT PRACTICES PLAN (FBMPP)

- A. **Public Fireworks Display Event Log.** The Discharger shall maintain a written log for each public fireworks display event containing the information as described in Section V.C. of this Order. The log shall be completed within 5 days following each public fireworks event and shall be made available to the San Diego Water Board upon request.
- B. **Post Firework Display Event Reporting.** No later than thirty (30) calendar days following each public display of fireworks event, the Discharger shall complete *Attachment C - Public Display of Fireworks Post Event Report Form* of this Order and make it available to the San Diego Water Board upon request. With the exception of the Fourth of July Post Event report, completed reports shall also be submitted to the San Diego Water Board quarterly in accordance with Section X.B.2 below. Fourth of July Post Event Reports shall be submitted to the San Diego Water Board by August 15.

IV. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

V. EFFLUENT MONITORING REQUIREMENTS- NOT APPLICABLE

VI. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS – NOT APPLICABLE

VII. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

IX. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Category 1 Discharger Monitoring Requirements

1. **Category 1 Discharger Criteria.** SeaWorld San Diego is a Category 1 Discharger.

Receiving water body monitoring shall be performed by all Category 1 Dischargers to assess compliance with receiving water limits. The monitoring may be performed either by individual Dischargers to assess compliance with receiving water limits, or through participation in a San Diego Bay or Mission Bay water body monitoring coalition or both as determined by the San Diego Water Board.

2. **Monitoring Coalitions.** To achieve maximum efficiency and economy of resources, the San Diego Water Board encourages Category 1 Dischargers in coordination to establish or join a San Diego Bay or Mission Bay water body-monitoring coalition. Monitoring coalitions enable the sharing of technical resources, trained personnel, and associated costs and create an integrated water and sediment monitoring program within each water body. Focusing resources on water body issues and developing a broader understanding of pollutants effects in these water bodies enables the development of more rapid and efficient response strategies and facilitates better management of water and sediment quality.
 - a. If a San Diego Bay or Mission Bay monitoring coalition is established, the coalition shall be responsible for water and sediment quality assessment within the designated water body and for ensuring that appropriate studies and reports required under this Order are completed in a timely manner.
 - b. The Coalitions shall coordinate with the San Diego Water Board to ensure that all coalition participants are proactive and responsive to potential water and sediment quality related issues as they arise during monitoring and assessment.

- 3. *Water and Sediment Monitoring Plan.*** The Discharger or water body monitoring coalition shall prepare and submit a Water and Sediment Monitoring Plan to assess compliance with Receiving Water Limitations of this Order. The Water and Sediment Monitoring Plan shall be submitted within twelve (12) months of the effective enrollment date specified in the Notice of Enrollment under this Order and shall contain the following elements:
- a. *Quality Assurance Project Plan.* A Quality Assurance Project Plan (QAPP) describing the project objectives and organization, functional activities, and quality assurance/quality control protocols for the water and sediment monitoring.
 - b. *Sampling and Analysis Plan.* A Sampling and Analysis Plan must be proposed based on methods or metrics described in 40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* and the SWRCB Sediment Quality Control Plan. The plan shall include a list of chemical analytes for the water column and sediment.
 - i. Water Column Sampling
 1. Frequency: The Sampling and Analysis Plan must propose the frequency and timing for water column sampling for Category 1 discharges. The proposed sampling must be based upon results on the fate and transport of pollutants from the conceptual model (see c, below).
 2. Pollutants: The Sampling and Analysis Plan must propose what pollutants will be monitored. At a minimum, monitoring must include the pollutants in Table 1 below:

Table 1. Water Chemistry Analytical Testing for San Diego and Mission Bay

Conventional, Nutrients	Semivolatile Organic Compounds	Metals (Total and Dissolved)
Total Phosphorous Perchlorate	bis-phthalate	Arsenic Barium Cadmium Chromium Cobalt Copper Lead Mercury Molybdenum Nickel Potassium Selenium Silver Thallium Tin Titanium Vanadium Zinc

ii. Sediment Sampling

1. Frequency: Sediment chemistry, toxicity and benthic organism monitoring shall be done, at a minimum, once every three years.
2. Sediment Chemistry, Toxicity and Benthic Community Condition: Sediment chemistry, toxicity and benthic community monitoring shall be done in accordance with, at a minimum, the requirements under the SWRCB Sediment Quality Control Plan. The proposal must also include the following:
 - a. Sediment Chemistry: In addition to those metals listed in Attachment A of the SWRCB Sediment Quality Control Plan, sediment chemistry must monitor for those metals listed in Table 1.
 - b. Benthic Community: An analysis of the subtidal habitat of the receiving waters. For discharges to unvegetated subtidal, the benthic community shall be evaluated using the line of evidence approach in Section V.G of the SWRCB Sediment Quality Control Plan. For discharges to vegetated subtidal (*Zostera marina*), the proposed benthic community monitoring

must be conducted in accordance with Section V.J of the SWRCB Sediment Quality Control Plan and utilize a reference site approach to assess the benthic invertebrate community and impacts to *Zostera marina* as a line of evidence. Assessment of *Zostera marina* must be done in accordance with the Southern California Eelgrass Mitigation Policy.

- c. *Conceptual Model.* A Conceptual Model identifying the physical and chemical factors that control the fate and transport of pollutants and receptors that could be exposed to pollutants in the water and sediment. The Conceptual Model will serve as the basis for assessing the appropriateness of the Water and Sediment Monitoring Plan design. The Conceptual Model shall consider:
- Points of discharge into the segment of the water body or region of interest;
 - Tidal flow and/or direction of predominant currents;
 - Historic or legacy conditions in the vicinity;
 - Nearby land and marine uses or actions;
 - Beneficial Uses;
 - Potential receptors of concern;
 - Change in grain size salinity water depth and organic matter; and
 - Other sources or discharges in the immediate vicinity.
- d. *Spatial Representation.* The Water and Sediment Monitoring Plan shall be designed to ensure that the sample stations are spatially representative of the sediment within the water body segment or region of interest.
- e. *Existing Data and Information.* The Water and Sediment Monitoring Plan design shall take into consideration existing data and information of appropriate quality.
- f. *Strata.* Identification of appropriate strata shall consider characteristics of the water body including sediment transport, hydrodynamics, depth, salinity, land uses, inputs (both natural and anthropogenic) and other factors that could affect the physical, chemical, or biological condition of the sediment.
- g. *Index Period.* All stations shall be sampled between the months of June through September to correspond with the benthic community index period.
- h. *Report Completion Schedule.* The Water and Sediment Monitoring Plan shall include a schedule for completion of all sample collection and analysis activities and submission of a final Water and Sediment

Monitoring Report described in Reporting Requirement VIII. C.

4. ***Water and Sediment Monitoring Plan Implementation.*** The Discharger or water body monitoring coalition shall implement the Water and Sediment Monitoring Plan in accordance with the schedule contained in the Water and Sediment Monitoring Plan unless otherwise directed in writing by the San Diego Water Board. Before beginning sample collection activities, the Discharger or water body monitoring coalition shall:
 - a. Notify the San Diego Water Board at least fourteen days in advance of the beginning of sample collection activities.; and
 - b. Comply with any conditions set by the San Diego Water Board with respect to sample collection methods such as providing split samples.

5. ***Water and Sediment Monitoring Report.*** The Discharger or water body monitoring coalition shall submit a Water and Sediment Monitoring Report in accordance with the schedule contained in the Water and Sediment Monitoring Plan unless otherwise directed in writing by the San Diego Water Board. The Water and Sediment Monitoring Report shall contain the following information:
 - a. *Analysis.* An evaluation, interpretation and tabulation of the water and sediment monitoring data including interpretations and conclusions as to whether applicable Receiving Water Limitations in this Order have been attained at each sample station.
 - b. *Sample Location Map.* The locations, type, and number of samples shall be identified and shown on a site map.
 - c. *California Environmental Data Exchange Network.* A statement certifying that the monitoring data and results have been uploaded into the California Environmental Data Exchange Network (CEDEN¹).

6. ***Additional Sediment Investigations.*** Based on the Water and Sediment Monitoring Report conclusions the San Diego Water Board may require a human health risk assessment to determine if the human health objective contained in Receiving Water Limitations V.A.3.c)(2) has been attained at each sample station. In conducting a risk assessment, the Discharger or regional water body monitoring coalition shall consider any applicable and relevant information, including California Environmental Protection Agency's (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) policies for fish consumption and risk assessment, Cal/EPA's Department of Toxic Substances Control (DTSC) Risk Assessment, and USEPA Human Health Risk Assessment policies.

¹ <http://ceden.org/>

B. Category 2 Discharger Monitoring Requirements

1. **Category 2 Discharger Criteria.** A Category 2 Discharger is a Discharger that meets the following criteria:

Discharges fireworks of any net explosive weight from a single event or multiple events to any Surface Water of the U.S. within the San Diego Region.

2. **Permitted Discharges.** Monitoring performed by Category 2 Dischargers is not required unless otherwise determined by the San Diego Water Board based on the following considerations:
 - a. Receiving water body characteristics including circulation, depth, assimilative capacity; CWA 303(d) listed impairments, and beneficial uses;
 - b. The frequency of firework events in the receiving water including those at or near the same firework fallout area;
 - c. The estimated firework pollutant loading from an individual or repeated firework event(s) affecting the same water body or segment thereof;
 - d. Accumulative effects from repeat firework events in the same location or other firework events affecting the same water body or segment thereof;
 - e. Proximity of the firework event to existing or proposed State Water Quality Protection Areas, inclusive of Areas of Special Biological Significance (ASBS) or other environmental sensitive receiving waters; or
 - f. Any other relevant water quality factors
3. **Monitoring Coalition.** If monitoring is required, the monitoring shall be performed by individual Dischargers to assess compliance with receiving water limits, or through participation in a water body monitoring coalition meeting the criteria for a coalition described in Section IX.A.2., or both as determined by the San Diego Water Board.
4. **Water and Sediment Monitoring Plan.** If monitoring is required, the Discharger or water body monitoring coalition shall prepare and submit a Water and Sediment Monitoring Plan to assess compliance with Receiving Water Limitations of this Order. The Water and Sediment Monitoring Plan shall be prepared and implemented in conformance with the requirements described in Sections IX.A.3 through Sections IX.A.6.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or San Diego Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 2. Monitoring and Reporting Schedule for Post Event Reports.

Reporting Period(s)	Report Due Date(s)
January-March April-June July-September October-December	May 1: August 1: November 1: February 1.
July 4	August 15

4. **Reporting Protocols.** The Discharger shall report with each analytical sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be

reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. **Compliance Determination.** This Order requires the use of minimum stipulated BMPs to control and abate the discharge of pollutant wastes from public fireworks events to surface waters in the San Diego Region. Proper implementation of the BMPs will assure the protection of water and sediment quality within the receiving waters. Dischargers enrolled under this Order are expected to comply with all water and sediment quality objectives through the implementation of BMPs. Compliance will be determined by evaluating the proper implementation of the minimum stipulated BMPs and their effectiveness in preventing and minimizing pollutant waste loading from public fireworks events to surface waters. Compliance will also be evaluated using information obtained under the monitoring and reporting program of this Order.
6. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the

data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

7. The Discharger shall submit SMRs in accordance with the following requirements:
 - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
 - c. SMRs must be submitted to the San Diego Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

**California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123**

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or San Diego Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in the San Diego Region. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to the Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to the Discharger.

I. DISCHARGE INFORMATION

A. Introduction

This Order is intended to regulate residual pollutant waste discharges associated with the public display of fireworks to receiving surface waters of the United States within the jurisdiction of the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board). The San Diego Region covers a large portion of San Diego County, portions of South Orange County, and the southwestern portion of Riverside County based on hydrologic drainage areas. In this Order the public display of fireworks refers to an entertainment feature where the public or a private group is admitted to or permitted to view the display or discharge of fireworks.

Public displays of fireworks (also referred to as a fireworks show or event) are conducted throughout the year at various locations within the San Diego Region as part of national and community celebrations and other special events. Located within the San Diego Region are entertainment theme parks and two major league stadiums for football and baseball that use firework displays during regular activities and special events. Additionally, fireworks displays and pyrotechnics special effects are periodically used in other venues such as business grand openings and special events, public and private school homecoming & graduation events, various sporting events and local fairs. The most significant and widespread use of fireworks displays for celebrations in the San Diego Region are for annual Fourth of July and New Year’s Eve public and private events. Firework display sites on or adjacent to urban shorelines are often the preferred setting to provide public access and avoid the fire hazards associated with terrestrial display sites.

Typical fireworks constituents include, but are not limited to, aluminum, antimony, barium, carbon, calcium, chlorine, cesium, copper, iron, potassium, lithium, magnesium, oxidizers including nitrates, chlorates and perchlorates, phosphorus, sodium sulfur, strontium, titanium, and zinc. The chemical constituents burn at high temperatures when the firework is detonated which promotes incineration. The chemical constituents within the fireworks are scattered by the burst charge,

which separates them from the fireworks casing and internal shell components. A firework combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris including paper, cardboard, wires and fuses. This combustion residue can fall into surface waters. In addition un-ignited pyrotechnic material including duds and misfires can also fall into surface waters.

The receiving water fallout area affected by the fireworks residue can vary depending on wind speed and direction, size of the shells, the angle of mortar placement, the type and height of firework explosions and other environmental factors. Once the fireworks residue enters a water body it can be transported to waters and shorelines outside the fallout area due to wind shear and tidal effects. The Clean Water Act (CWA), at section 301(a), broadly prohibits the discharge of any pollutant to waters of the United States, except in compliance with an NPDES permit. Fireworks residue waste discharged into surface waters constitutes discharge of a pollutant from a point source within the meaning of the CWA. Therefore, coverage under an NPDES permit is required before residual firework pollutant waste can be lawfully discharged.

This Order requires implementation of Best Management Practices (BMPs) to ensure the pollutant waste discharges associated with the public display of fireworks do not cause pollution or nuisance conditions in surface waters within the San Diego Region.

B. Background- NPDES Permit Program

The Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA)¹ was enacted in 1972. The CWA established the National Pollutant Discharge Elimination System (NPDES) permit program to regulate the discharge of pollutants from point sources², such as pipes, to waters of the United States. The NPDES program is designed to control toxic discharges, implement water quality standards, and restore and maintain “fishable and swimmable” designated beneficial uses in waters of the United States. Point sources that discharge pollutants to waters of the United States are authorized by obtaining and complying with the terms and conditions of NPDES permits.³ NPDES Permits are effective for fixed terms not to exceed 5 years.⁴ Either the United States Environmental Protection Agency (USEPA) or states with USEPA-

¹ 33 U.S.C. § 1251 et seq. (CWA § 101, et seq.)

² A point source is “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” Id. § 1362(14); (CWA § 502(14).)

³ See *id.* §§ 1311, 1342, (CWA §§ 301, 402).

⁴ See *id.* § 1342(b)(1)(B), (CWA § 402(b)(1)(B).)

approved programs are authorized to issue NPDES permits. California has an approved program.

NPDES permits commonly contain numerical effluent limits on the amounts of specified pollutants that may be discharged and specified best management practices (BMPs) designed to minimize water quality impacts. Federal regulations allow the use of other requirements such as BMPs in lieu of numerical effluent limits if the latter are infeasible.⁵ These numerical effluent limitations and BMPs or other non-numerical effluent limitations implement both technology-based and water quality based requirements of the Act. Technology-based limitations represent the degree of control that can be achieved by point sources using various levels of pollution control technology. If necessary to achieve compliance with applicable water quality standards.⁶ NPDES permits must contain water quality-based limitations more stringent than the applicable technology-based standards

Water quality standards, as defined in CWA Section 303(c), consist of the beneficial uses of a water body and criteria (referred to as water quality objectives in California) to protect those uses and an anti-degradation policy.⁷ The criteria can be either narrative or numeric.⁸ A typical narrative criterion, for example, prohibits “the discharge of toxic pollutants in toxic amounts.” Numeric criteria establish pollutant concentrations or levels in water that protect beneficial uses. An example of a numeric saltwater criterion for copper to protect aquatic life is 3.1 micrograms per liter (µg/l) as a monthly average.

The states are primarily responsible for the adoption of water quality standards, although EPA has oversight and promulgation authority, as well.⁹ In California water quality standards are found in statewide and regional water quality control plans.¹⁰ Water quality control plans contain beneficial use designations, water quality objectives to protect those uses, and a program to implement the objectives.¹¹ Water quality objectives are the state equivalent of federal criteria

⁵ See 40 CFR 122.44(k)(3)

⁶ Under state law, the water boards establish beneficial uses and water quality objectives in their water quality control or basin plans. Together with an anti-degradation policy, these beneficial uses and water quality objectives serve as water quality standards under the Clean Water Act. In Clean Water Act parlance, state beneficial uses are called “designated uses” and state water quality objectives are called “criteria.” Throughout this order, we use the relevant term depending on the statutory scheme.

⁷ See 40 C.F.R. § 131.6.

⁸ See 40 CFR § 131.3(b) (“*Criteria* are elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use.”)

⁹ See 33 U.S.C. § 1313(c), CWA § 303(c).

¹⁰ See California Water Code (CWC) §§ 13170, 13170.2, 13240-13247.

¹¹ Compare CWC §13050(h) with 40 CFR §131.3(b).

under CWA Section 303(c).¹²

In California the State Water Board and nine Regional Water Quality Control Boards (Regional Water Boards) issue and administer NPDES permits under a program approved by the USEPA.¹³ To maintain program approval, state and federal law require that permits ensure consistency with the Clean Water Act and implementing USEPA regulations.¹⁴ State statutory authority for the NPDES permit program is found in Chapter 5.5, Division 2 of the California Water Code which ensures consistency with the Clean Water Act requirements for state permit programs. The permits must “apply and ensure compliance with” all applicable provisions of the Clean Water Act and “with any more stringent effluent standards or limitations necessary to implement water quality control plans.”¹⁵ In addition, permits must be issued and administered in accordance with the applicable EPA permit regulations.¹⁶ The provisions of Chapter 5.5 prevail over other Water Code provisions to the extent of any inconsistency.

C. Discharge Description

1. Firework Categories

Fireworks are a class of low explosive pyrotechnic devices used for aesthetic or entertainment purposes. Firework devices take many forms to produce four primary effects: noise, light, smoke, and floating materials (confetti for example). Fireworks may be designed to burn with colored flames and sparks including red, orange, yellow, green, blue, purple, and silver.

Professional pyrotechnic devices used in fireworks displays can be grouped into three general categories: 1) aerial shells (paper and cardboard spheres or cylinders filled with pyrotechnic materials), 2) low-level comet and multi-shot devices such as roman candles, and 3) set piece displays mounted on the ground.

Aerial fireworks typically either provide their own propulsion (e.g. a skyrocket using a solid rocket motor) or are shot into the air in an aerial shell by a mortar using a black powder lifting charge or propellant. Most of the incendiary elements and shell casings burn up in the atmosphere; however, portions of the casings and some internal structural components and chemical residue fall back to the ground or receiving water bodies. The aerial shell typically consists of a cylinder or spherical cartridge, usually constructed of paper, plastic or cardboard and may include some plastic or paper internal components used to compartmentalize chemicals within in the shell. The

¹² Compare CWC § 13050(h) with 40 CFR 131.3(b).

¹³ See *id.* § 1342(b) and CWC § 13377.

¹⁴ *Ibid.*; 40 CFR 123; CWC §§ 13372, 13377.

¹⁵ See CWC § 13377.

¹⁶ California Code of Regulations (CCR), Title 23, § 2235.2.

shell casing contains a burst charge, pyrotechnic material that emits prescribed colors when detonated, a fuse and a black powder lift charge. Aerial shells are often combined so as to make, when detonated, a great variety of sparkling shapes, often variously colored.

Colors in fireworks are usually generated by pyrotechnic stars—usually just called stars—which produce intense light when ignited. Stars contain five basic types of ingredients.

- A fuel which allows the star to burn
- An oxidizer—a compound which produces (usually) oxygen to support the combustion of the fuel
- Color-producing chemicals
- A binder which holds the pellet together.
- A chlorine donor which provides chlorine to strengthen the color of the flame. Sometimes the oxidizer can serve this purpose.

Attached to the bottom of an aerial shell is a lift charge of black powder. The lift charge and shell are placed at the bottom of a mortar buried in earth/sand or affixed to a wooden rack. A fuse attached to the lift charge is ignited with an electric charge or heat source, the lift charge explodes, and propels the shell through the mortar tube and into the air to a height determined by the amount of powder in the lift charge and the weight of the shell. As the shell travels skyward, a time-delay secondary fuse is burning that eventually ignites the burst charge within the shell at peak altitude. The burst charge detonates, igniting and scattering the stars, which may, in turn, have small secondary explosions. Shells can be launched one at a time or in a barrage of simultaneous or quick succession launches and are typically designed to detonate between 200 and 1000 feet above ground level.

Low-level firework devices consist of stars packed linearly within a tube. When ignited, the stars exit the tube in succession producing a fountain effect of single or multi-colored light as the stars incinerate through the course of their flight. Typically, the stars burn rather than explode, thus producing a ball or trail of sparkling light to a prescribed altitude where they simply extinguish. Sometimes they may terminate with a small explosion similar to a firecracker. Other low-level devices emit a projected hail of colored sparks or perform erratic low-level flight while emitting a high-pitched whistle. Some emit a pulsing light pattern or crackling or popping sound effects. In general, low-level launch devices and encasements remain on the ground or attached to a fixed structure and can be removed upon completion of the display. Common low-level devices are multi-shot devices, mines, comets, meteors, candles, strobe pots and gerbs. They are designed to produce effects between 0 and 200 feet above ground level.

Set piece or ground level fireworks are primarily static in nature and remain

close to the ground. They are usually attached to a framework that may be crafted in the design of a logo or familiar shape, illuminated by pyrotechnic devices such as flares, sparklers and strobes. These fireworks typically employ bright flares and sparkling effects that may also emit limited sound effects such as cracking, popping, or whistling. Set pieces are usually used in concert with low-level effects or an aerial show and sometimes act as a centerpiece for the display. It may have some moving parts, but typically does not launch devices into the air. Set piece displays are typically designed to produce effects between 0 and 50 feet above ground level.

2. Firework Chemical Constituents

A partial list of chemicals used in fireworks as fuels, oxidizers, binding agents, coloration effects and sound effects is provided in Table 1 below. The detonation of fireworks over or adjacent to surface waters may result in the discharge of these and other pollutants to surface waters:

Table 1. Fireworks Chemical Constituents

Symbol	Name	Fireworks Usage
Al	Aluminum	Aluminum is used to produce silver and white flames and sparks. It is a common component of sparklers.
Ba	Barium	Barium is used to create green colors in fireworks, and it can also help stabilize other volatile elements.
C	Carbon	Carbon is one of the main components of black powder, which is used as a propellant in fireworks. Carbon provides the fuel for a firework. Common forms include carbon black, sugar, or starch.
Ca	Calcium	Calcium is used to deepen firework colors. Calcium salts produce orange fireworks.
Cl	Chlorine	Chlorine is an important component of many oxidizers in fireworks. Several of the metal salts that produce colors contain chlorine.
Cs	Cesium	Cesium compounds produce indigo color in fireworks.
Cu	Copper	Copper compounds produce blue colors in fireworks.
Fe	Iron	Iron is used to produce sparks. The heat of the metal determines the color of the sparks.
K	Potassium	Potassium compounds help to oxidize firework mixtures. Potassium nitrate, potassium chlorate, and potassium perchlorate are all important oxidizers. The potassium content can impart a violet color to the sparks.

Symbol	Name	Fireworks Usage
Li	Lithium	Lithium is a metal that is used to impart a red color to fireworks. Lithium carbonate, in particular, is a common colorant.
Mg	Magnesium	Magnesium burns a very bright white, so it is used to add white sparks or improve the overall brilliance of a firework.
Na	Sodium	Sodium imparts a gold or yellow color to fireworks, however, the color is often so bright that it frequently masks other, less intense colors.
O	Oxygen	Fireworks include oxidizers, which are substances that produce oxygen in order for burning to occur. The oxidizers are usually nitrates, chlorates, or perchlorates. Sometimes the same substance is used to provide oxygen and color.
P	Phosphorus	Phosphorus burns spontaneously in air and is also responsible for some glow in the dark effects. It may be a component of a firework's fuel.
S	Sulfur	Sulfur is a component of black powder, and as such, it is found in a firework's propellant/fuel.
Sb	Antimony	Antimony is used to create firework glitter effects.
Sr	Strontium	Strontium salts impart a red color to fireworks. Strontium compounds are also important for stabilizing fireworks mixtures.
Ti	Titanium	Titanium metal can be burned as powder or flakes to produce silver sparks.
Zn	Zinc	Zinc is a bluish white metal that is used to create smoke effects for fireworks and other pyrotechnic devices.

The chemical constituents burn at high temperatures when the firework is detonated which promotes incineration. The chemical constituents within the fireworks are scattered by the burst charge, separating them from the fireworks casing and internal shell components. A firework combustion residue is produced in the form of smoke, airborne particulates, chemical pollutants, and debris including paper, cardboard, wires and fuses. This combustion residue can fall into surface waters. In addition un-ignited pyrotechnic material including duds and misfires can also fall into surface waters. The receiving water fallout area affected by the fireworks residue can vary depending on wind speed and direction, size of the shells, the angle of mortar placement, the type and height of firework explosions and other environmental factors. Once the fireworks residue enters a water body it can be transported to waters and shorelines outside the fallout area due to wind

shear and tidal effects.

Various factors can affect the levels of firework chemical residues in surface waters adjacent to fireworks displays, such as the frequency of firework events, the overall amount of ignited fireworks per event, efficiency of perchlorate oxidation which controls the mass of perchlorate introduced to the environment, wind direction and velocity which controls the dispersion and fall-out of firework particles. All of these factors associated with the detonation of fireworks have a potential to adversely effect or contribute to degradation of water and sediment quality within the receiving waters.

3. Perchlorate Considerations

One of the main constituents of concern in firework discharges is perchlorate. The detonation of fireworks can result in the release of perchlorate into the environment and surface waters. Perchlorate is a chemical that is both manufactured and naturally-occurring. Most commonly found in the form of perchloric acid and salts, perchlorate is highly soluble, mobile in groundwater and surface water, and persistent in the environment. Most fireworks are believed to contain potassium perchlorate, an inorganic salt that is a strong oxidizer. The manufacturers of fireworks use potassium perchlorate in the compositions that produce colored smokes and bursts. Its presence in the environment has been attributed to past waste handling practices at facilities that manufacture or use perchlorate and materials containing the chemical. It may also be present in the environment as a consequence of using perchlorate-containing products such as solid rocket propellant, flares, fireworks, pyrotechnic devices including fireworks, and explosives. Perchlorate can greatly impact human health by interfering with iodide uptake into the thyroid gland. In adults, the thyroid gland helps regulate the metabolism by releasing hormones, while in children, the thyroid helps in proper development. Although research has found that perchlorate at high levels can limit the uptake of iodide by the thyroid gland, studies have not directly measured the impact of perchlorate on human metabolism and growth.

Perchlorate effects on the thyroid gland are the basis of the 6 ug/L public health goal (PHG) for drinking water established in 2004. A PHG is a level of a contaminant in drinking water that does not pose a significant short-term or long-term health risk. A PHG is not a regulatory requirement. Instead, it is a goal for drinking water that California's public water suppliers and regulators should strive to meet if it is feasible to do so. In January 2011, OEHHA released a draft technical support report document proposing the establishment of a 1 ug/L PHG for perchlorate. .

Monitoring by the California Department of Public Health and operators of public water systems have shown perchlorate to be a wide spread drinking water contaminant occurring in several hundred wells, mostly in Southern

California. Perchlorate was also found in the Colorado River, an important source of water for drinking and irrigation, where its presence resulted from contamination from ammonium perchlorate manufacturing facilities in Nevada.

Based on all of these considerations the California Department of Public Health took action in October 2007 to regulate perchlorate as a drinking water contaminant with a maximum contaminant level (MCL) of 6 micrograms per liter. On the Federal level the US EPA issued a notice in the federal register on February 2, 2011 that it is initiating a process to develop and establish a national primary drinking water regulation for perchlorate.

D. Summary and Analysis of Existing Data

With the exception of SeaWorld San Diego, discharges associated with public fireworks events have previously been unregulated in the San Diego Region by the San Diego Water Board. SeaWorld has conducted annual fireworks related monitoring for sediment and water quality parameters since 2001 in accordance with its NPDES permit. In 2007 monitoring requirements to determine effects on benthic infauna were also added by the San Diego Water Board.

On December 17, 2007, the San Diego Water Board made revisions to the NPDES permit for SeaWorld San Diego (Order No. R9-2005-0091, NPDES No. CA0107336) to incorporate requirements for the discharge of pollutant waste associated with the public display of fireworks to Mission Bay. SeaWorld has conducted nightly displays of fireworks over many years during the summer months between April and September and other times during the year. Under the current SeaWorld Master Plan update, approved by the California Coastal Commission in 2001, SeaWorld may present up to 150 fireworks events per year, with an anticipated average between 110 and 120 events per year. SeaWorld's firework events have occurred at the same general location in Mission Bay and thus would be expected to represent the maximum firework pollutant loading conditions and cumulative effects on a surface water body. Accordingly discharges from SeaWorld's public fireworks events likely represent the maximum firework pollutant loading conditions and cumulative effects due to a combination of 1) the restricted circulation of waters within Mission Bay, 2) the shallow depth of the bay in the vicinity of the fireworks events, and 3) the high frequency of repeat fireworks events throughout the year at the same location. Other water bodies however can exhibit different and unique effects from firework event discharges due to site specific factors.

With the exception of perchlorate and bis-phthalate, water chemistry sampling of regular SeaWorld events (typically involving the detonation of approximately 200 pounds of net explosive weight) to date showed little evidence of pollutants within the receiving water column at levels above applicable water quality

criteria or detected reference site levels.¹⁷ Comparison of instantaneous and average concentrations of dissolved metals in water samples taken after SeaWorld's typical fireworks displays to California Toxics Rule (CTR) saltwater criteria shows that the instantaneous and average dissolved concentrations of metals fall below both continuous exposure and maximum exposure concentrations.

SeaWorld also conducted water chemistry monitoring following two Labor Day events and one Fourth of July fireworks event.¹⁸ These 3 events have a larger discharge, with approximately 1000 pounds of net explosive weight used per event. Water chemistry sampling following these dates found receiving waters in the fireworks fallout area to exceed both water quality criteria and levels documented at the reference sites. Pollutants such as arsenic, copper, mercury, tin, zinc and phosphorous were detected at levels above water quality criteria or at elevated levels compared to the reference sites. However, only phosphorous exceeded instantaneous water quality criteria.

While dissolved water chemistry during major events showed one exceedance and elevated levels of some pollutants, it is important to note that the dissolved form may not be representative of fireworks discharges. The June 2010 Sea World Aerial Fireworks Displays NPDES Permit Addendum Summary Report suggests that the lack of exceedances of water quality criteria may be due to a number of factors, including settling and a short residence time in the water. It is also important to note that CTR criteria for metals is in the dissolved form. However, all NPDES permit effluent limitations for metals are required to be expressed in the 'total recoverable metal' (see 40 CFR 122.45 and 136). Based upon the potential nature of the discharge form (particulate) and pertinent federal regulations, the data was also examined for differences in total metals between the fireworks discharge zone and the reference sites. The sampling showed increased total concentrations in the fireworks discharge zone relative to the reference site(s) for aluminum, cadmium, chromium, copper, lead, nickel, selenium, thallium, vanadium and zinc. This indicates that the dominant form of the discharge is in particulate form. However, the only metals whose levels in the discharge zone were at or above instantaneous dissolved CTR criteria were copper and zinc.

While the water chemistry sampling to date shows elevated levels of pollutants within the fireworks fallout area relative to reference sites, the elevated levels are primarily following large events and below applicable water quality criteria. Monitoring of SeaWorld's major firework events was typically conducted approximately 12 hours following the event, and for the Fourth of July event, approximately 36 hours following the event. The representativeness of the sampling is likely influenced by a number of factors including the form of the discharge (dissolved or particulate form), tidal magnitude and timing, and

¹⁷ There are currently no applicable water quality criteria for perchlorate and bis-phthalate.

¹⁸ The sampling following the July 4th event was delayed until the morning of July 6.

salinity. Again, the unknown variability in these factors is reflected within the June 2010 Sea World Aerial Fireworks Displays NPDES Permit Addendum Summary Report which lists factors such as “currents and tidal mixing, the short residence time of fireworks debris in the water of the FDZ, adsorption, and settling, and the fact that the majority of the fireworks chemicals are incinerated upon detonation” as potential contributing factors to the documented results. Thus, the accuracy of the sampling methodology may be limiting the accuracy of water column sampling for pollutants. However, it remains clear that water chemistry sampling found elevated pollutant levels relative to the reference sites after major events.

It is important to note that the Water and Sediment Monitoring Plan required under this Order must include a conceptual model developed by dischargers to dictate the design of the sediment monitoring program. The model is required to consider the physical and chemical fate and transport of pollutants. This effort is expected to better define the nature of residual firework pollutant waste discharges into receiving waters, and may result in a more representative sampling methodology for water chemistry following fireworks discharges. Thus, the documentation of elevated levels of certain pollutants in the water column and sediment relative to the reference sites, as well as the unknown nature of the discharge, warrant further sampling for water chemistry following conceptual model development.

SeaWorld’s sediment monitoring in Mission Bay found enrichment of 11 metals within the fireworks zone when compared to one reference site (barium, chromium, cobalt, copper, molybdenum, potassium, selenium, silver, thallium, titanium and vanadium) and 4 metals (barium, cobalt, copper, and vanadium) when compared to both reference sites. Alternatively, sediment grain size and concentration analysis found correlations for barium, cobalt, chromium, copper, titanium and vanadium. The data provides an indication of an accumulation of pollutants over time within the fireworks fallout area when compared to the reference sites.

Based on SeaWorld’s sediment toxicity and benthic community analysis, it was difficult to draw any conclusions regarding the benthic effects of fireworks displays to the differences found between the reference stations and the fireworks fallout area. Additional monitoring may be necessary to separate possible effects associated with fireworks displays and effects from other pollutant sources to Mission Bay, such as storm water discharges. The results for the short-term survival sediment toxicity sampling were highly variable spatially and temporally within the fireworks deposition zone and temporally within the reference sites. Sediment toxicity test results for both reference sites and the fireworks fallout area ranged from non-toxic to highly toxic. Thus, it was difficult to detect any difference in short term toxicity between and among the sites. All sites did appear to exhibit decreased survival rates when compared to laboratory control samples. While the sediment toxicity sampling

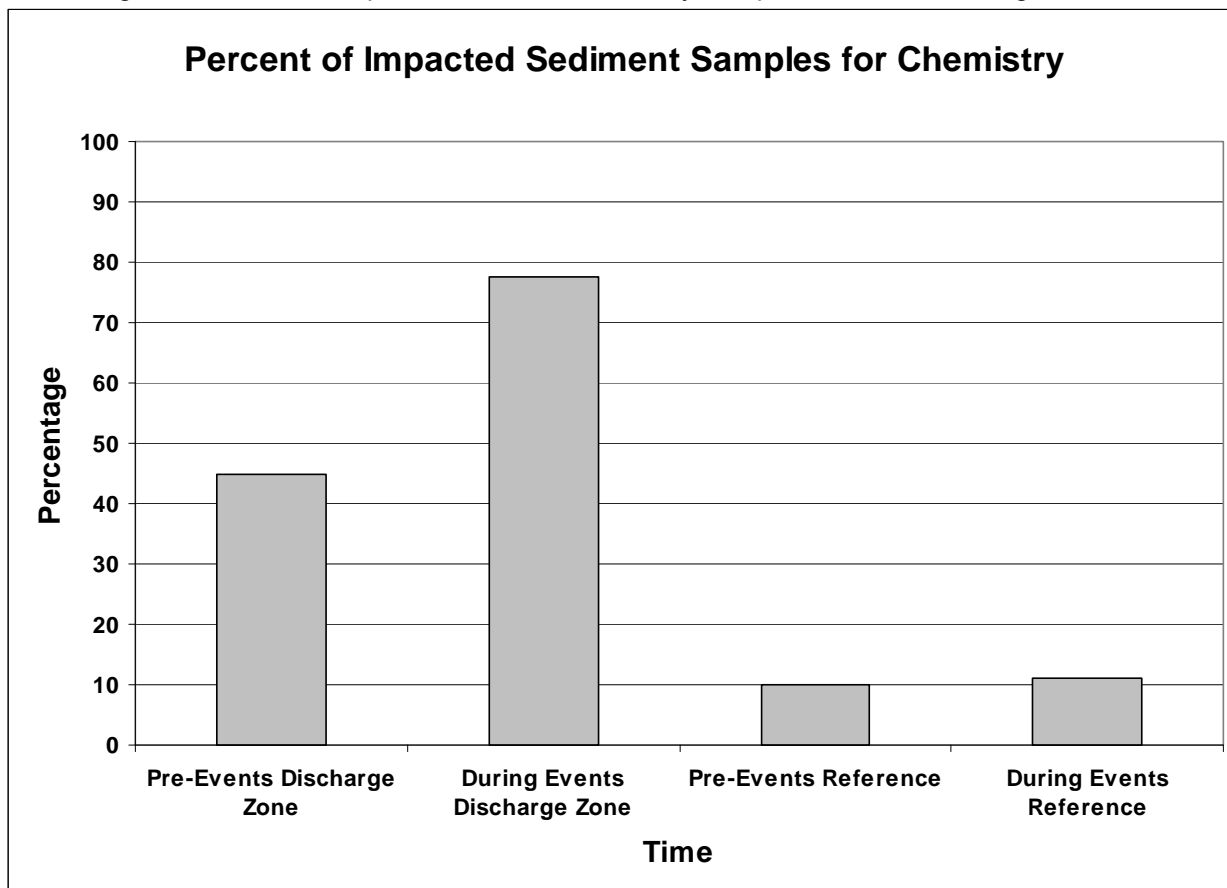
conducted by SeaWorld utilized a methodology consistent with the SWRCB Sediment Quality Control Plan, sampling done to determine compliance with Sediment Quality Objectives must include both a short-term survival toxicity test and a sublethal sediment toxicity test. The benthic infaunal sampling found the reference sites and fireworks fallout area to have communities with a different species composition. The fireworks fallout sampling area consists of vegetated (*Zostera marina*) soft-bottom subtidal habitat while the reference sites were documented in sampling datasheets to be unvegetated soft-bottom. The differing habitat types made it difficult to compare benthic communities between the reference sites and fireworks fallout area. Thus, detecting or determining any benthic community impacts in the fireworks fallout area is not feasible with the data collected.

The data collected by SeaWorld under their NPDES permit for SeaWorld San Diego was collected from August 2008 to March 2010. Although the data collected is insufficient for a full determination based upon the SWRCB Sediment Quality Control Plan, the current Sediment Quality Objectives Line of Evidence Evaluation Tool (SQO LOE Tool) allows for the input of collected data in order to assess the likelihood of biological exposure and effects from each line of evidence. For the data collected by SeaWorld, a number of chemical constituents required by the SWRCB Sediment Quality Plan were not collected, and only one of the required two toxicity tests was done. However, the data collected was entered into the SQO LOE Tool and evaluated for toxicity and chemical exposure. The fireworks fallout area could not be evaluated for benthic community condition as the SQO LOE Tool is specific to unvegetated subtidal. A total of 6 events were sampled by SeaWorld as follows: 2 spring pre-fireworks events, 3 major fireworks events, and 1 minor fireworks event. An additional 7 reference sites in Mission Bay were sampled in 2006 and 2007. The total number of samples collected was as follows: 19 reference samples and 60 fireworks fallback area samples. 10 samples per event were taken within the fireworks fallback area.

The results for sediment chemistry showed a moderate number of impacted¹⁹ sediment samples (45 percent) in the fireworks fallout area prior to the beginning of SeaWorld's summer fireworks events (see Figure 1). For sediment samples collected during the fireworks season (August and September 2008, July and September 2009), the number of impacted sediment samples increased, with almost 80 percent of samples qualifying as impacted (see Figure 1). The number of qualified sediment samples at reference sites remained low during both periods, with pre-events sampling showing 10 percent of sediment samples as impacted. During the SeaWorld fireworks season this number increased slightly to 11.1 percent.

¹⁹ Sediment samples with a moderate or high exposure risk to benthic communities (integrated chemistry indicator).

Figure 1. Percent of Impacted Sediment Chemistry Samples Before and During Fireworks.



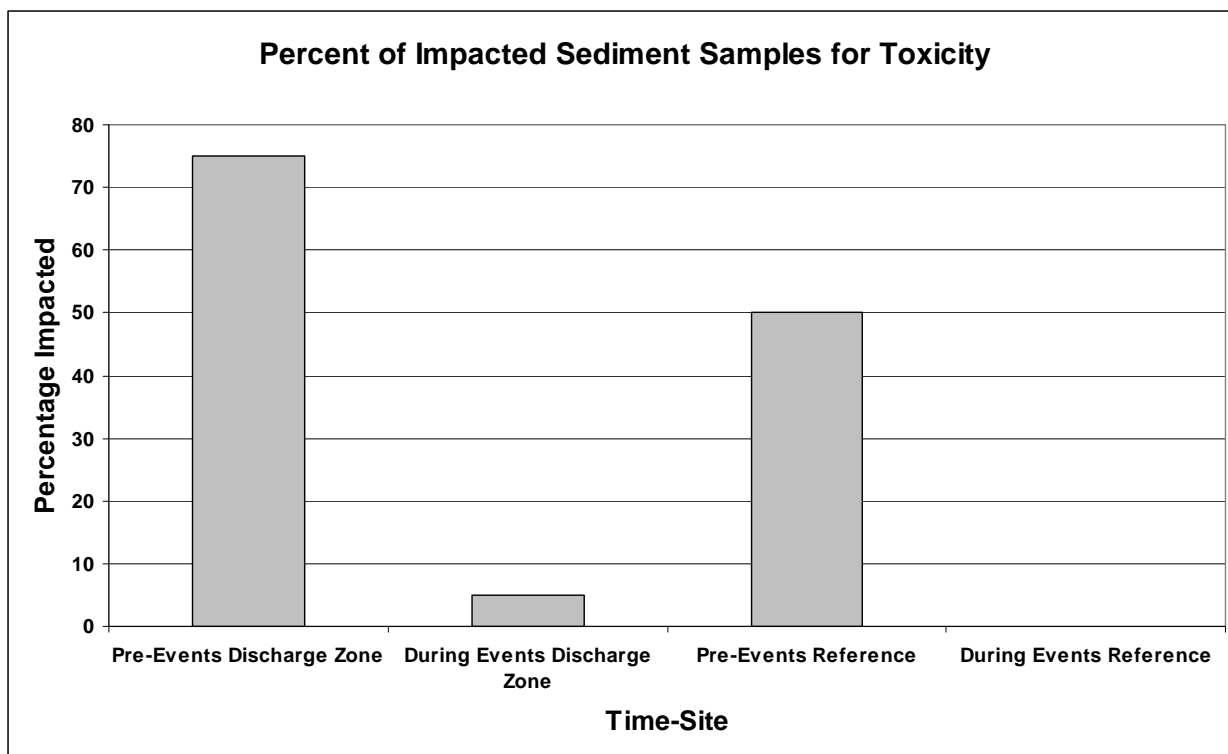
The results for sediment acute toxicity differed from the sediment chemistry results. The reference sites and the SeaWorld fireworks fallout area had more samples that were considered toxic²⁰ during pre-events sampling than for samples collected during the fireworks season. Acute toxicity during the fireworks season was low, with less than 10 percent of samples and 0 percent of samples defined as toxic in the SeaWorld fireworks fallout area and reference sites, respectively (see Figure 2). Presumably a factor external to the fireworks discharge resulted in acute toxicity in both areas. The June 2010, SeaWorld Aerial Fireworks Displays NPDES Permit Addendum Summary Report suggest that storm water runoff may be a possible source of the acute toxicity. This is a likely possibility, as rainfall records show 0.18” and 0.68” of rainfall occurring in March 2009 and 2010, respectively²¹. These rainfall events occurred prior to the pre-event sample collection. It is important to note that while the sampling indicates the fireworks discharge did not cause acute

²⁰ Samples classified as nontoxic or low toxicity were not considered “toxic.”

²¹ <http://www.wrh.noaa.gov/sgx/>

toxicity, no sublethal toxicity testing was conducted. Therefore, sublethal effects from chemical exposure is unknown.

Figure 2. Percent of Toxic Sediment Toxicity Samples Before and During Fireworks.

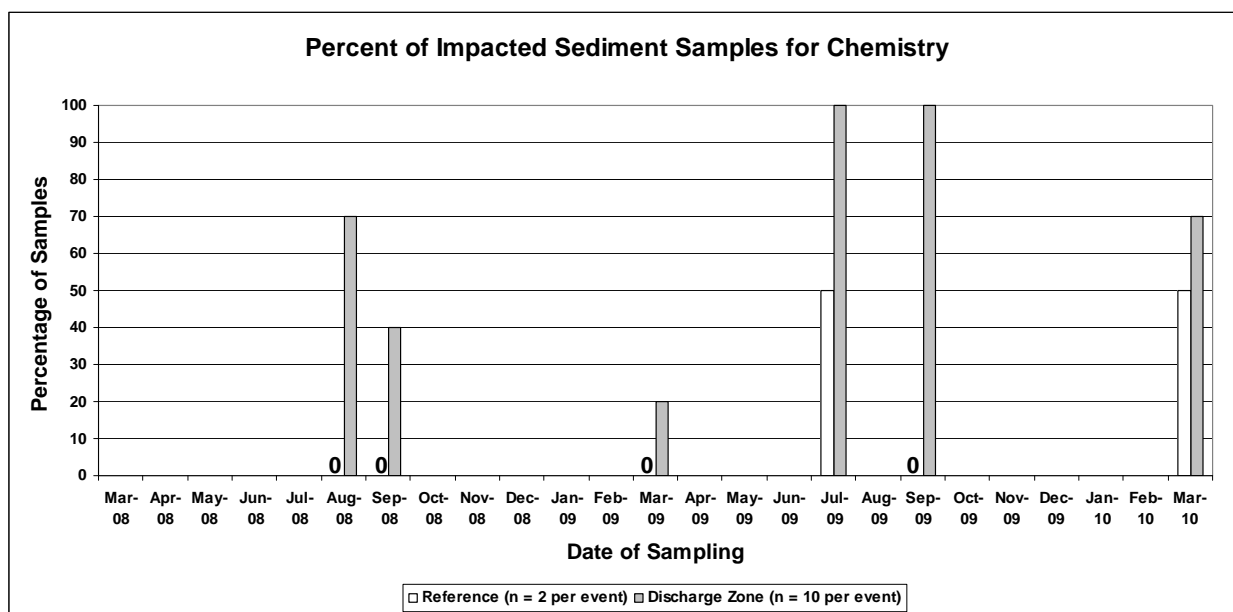


In summary, sediment monitoring at SeaWorld to date shows elevated pollutants within the sediment, but toxicity testing results are inconclusive, and the benthic community results cannot reasonably be evaluated. As discussed in the SWRCB Sediment Quality Control Plan, none of the individual lines of evidence is sufficiently reliable when used alone to assess sediment quality impacts due to toxic pollutants. Within a given site, individual lines of evidence may underestimate or overestimate the risk to benthic communities and do not indicate causality of specific chemicals. Thus, while sampling documented increased pollutant levels, the monitoring conducted to date is insufficient to discern if there are benthic impacts within the fireworks fallout area attributable solely to the discharge of residual fireworks pollutant waste. However, the increase in pollutant levels within the sediment in the fireworks fallback area shows that the discharge of pollutants associated with larger fireworks events has the reasonable potential to cause or contribute to an exceedance of the narrative sediment quality objectives stated in section VI.A.3.c of the Order.

Based on water quality data obtained to date, it is unlikely that single fireworks events of a smaller size than SeaWorld's Fourth of July and Labor Day events would cause exceedances of applicable water quality criteria in the water column of receiving waters. However, the continuous discharge of pollutant waste from large fireworks events and the cumulative discharges of smaller

events may result in longer-term pollutant accumulation in bay sediments, similar to the enrichment observed in the in the SeaWorld fireworks fallback area data. The water column monitoring documented an increased level of total metal concentrations in the SeaWorld fireworks fallback area relative to the reference site(s) for aluminum, cadmium, chromium, copper, lead, nickel, selenium, thallium, vanadium and zinc. While sampling in the SeaWorld fireworks fallback area clearly documented an accumulation of metals within the fallback area sediment, the data on cumulative effects is too limited to discern differences in accumulation between and among events, nor determine rates of accumulation or attenuation (see Figure 3).

Figure 3. Percent of Impacted Sediment Chemistry Samples By Event.



Although site specific information is not available for all receiving waters in the San Diego Region subject to this type of discharge, and each water body can exhibit different effects as a result of the discharge, it is anticipated that proper implementation of BMPs required under this Order would adequately control and abate the discharge of pollutant wastes from public fireworks events to surface waters in the San Diego Region.

The San Diego Water Board’s review of sampling conducted under Order No. R9-2005-0091 focused on quantitative data from water column and sediment sampling, with the review looking primarily for differences in water column and sediment chemistry results between the discharge zone and reference sites, and by further comparing discharge zone results to applicable water quality criteria. As stated in section I.C.2 of this Order, the fireworks discharge may also include wires, cardboard, fuses and duds that fall back into the discharge zone. Order No. R9-2005-0091 did include a finding regarding the amount of surface debris collected by SeaWorld following fireworks events, with an

average of 11 pounds of fireworks related wet debris collected each evening and 8 pounds the following morning. Furthermore, the diving logs for sample collection under Order No. R9-2005-0091 provided additional documentation of fireworks debris on the benthos of the discharge zone following major events. It is likely that firework duds, the incomplete combustion of fireworks, and post-fragmentation debris (wires, cardboard, etc...) contributes equal, if not greater, loads of pollutants to the benthos of receiving waters than particulate fallout. However, the proportion of pollutants from particulate fallout in relation to duds, debris or incomplete combustion has not been tested or quantified.

E. Related Fireworks Regulation

1. Office of the California State Fire Marshal (OSM).

California's Fireworks Law, passed in 1938, established the Office of the State Fire Marshal (SFM) as the fireworks classification authority in California. Fireworks are classified through laboratory analysis, field examinations and test firing of items. As part of the program, SFM requires the licensing of all pyrotechnic operators, fireworks manufacturers, importer-exporters, wholesalers, retailers, and public display companies. Pyrotechnic Operators, who discharge fireworks at public displays or launch high powered and experimental rockets, must also pass a written examination and provide proof of experience. The State's Explosives Law authorizes the California State Fire Marshal to adopt regulations for the safe use, handling, storage and transportation of fireworks in California. The laws and regulations governing the transportation, use and storage of fireworks in California are contained in:

- a) State Fireworks Law, California Health and Safety Code, Section 12500 – 12728;
- b) State Fireworks Regulations, Title 19, California Code of Regulations, Chapter 6;
- c) Storage, Title 27, Code of Federal Regulations part 55, Sub-part K; and
- d) Hazardous Materials Transportation, Title 13, California Code of Regulations,

2. California State Department of Toxic Substances Control.

In light of the risks to public health and the environment posed by perchlorate releases, the California Legislature adopted the Perchlorate Contamination Prevention Act of 2003, amending Chapter 6.5 of Division 20 of, the Health and Safety Code and requiring the California Department of Toxic Substances Control (DTSC) to adopt regulations specifying best management practices for perchlorate and perchlorate-containing

substances. The perchlorate BMP regulations were adopted on December 31, 2005 and are contained in California Code of Regulations (CCR), Title 22, Social Security Division 4.5. Environmental Health Standards for the Management of Hazardous Waste Chapter 33. Best Management Practices for Perchlorate Materials Article 1, § 67384.1 - § 67384.11. These regulations provide at §67384.8 (c). Special Best Management Practices for Flares and Pyrotechnic Perchlorate Materials, that:

“Within twenty-four (24) hours of a public display of fireworks or the use of dangerous fireworks, the pyrotechnics operator, in addition to complying with title 19 of the California Code of Regulations, section 1003, shall, to the extent practical, collect any stars and un-ignited pyrotechnic material found during the required inspection of the entire firing range.”

3. U.S. Coast Guard.

The U.S. Coast Guard (USCG), pursuant to 33 CFR 100, implements a Marine Safety Program designed to ensure the safety of vessels and recreational boaters on navigable U.S. waters during firework display events. The USCG issues Marine Event permits to sponsors of public firework display events marine events that have the potential to endanger marine safety. An Application for Approval of Marine Event must be submitted to the USCG or approval no later than 135 days prior to the event if the applicant does not meet criteria specified in 33 CFR 100.15 (c), or 60 days prior to the event if the applicant does meet the criteria. After approving plans for the holding of a fireworks display event, the USCG is authorized to promulgate special local regulations as necessary to insure public safety on navigable waters immediately prior to, during, and immediately after the approved fireworks event. Such regulations may include a restriction on, or control of, the movement of vessels through a specified fireworks display area.

4. San Diego Air Pollution Control District.

The San Diego Air Pollution Control District (APCD) is the air pollution control agency for all of San Diego County. San Diego Air Pollution Control District Rule 101-Burning Control was established to require that open burning in San Diego County be conducted in a manner that minimizes emissions and smoke, and is managed consistently with state and federal law. The provisions of Rule 101 specifically exempt fireworks displays and pyrotechnics used for creation of special effects [Sections (b)(1)(iii) and (b)(1)(iv)].

5. South Coast Air Quality Management District.

The South Coast Air Quality Management District (AQMD) is the air pollution control agency for all of Orange County and the urban portions of

Los Angeles, Riverside and San Bernardino Counties. The AQMD historically has not required permits for equipment associated with fireworks displays at theme park activities or annual celebrations. AQMD Rule 219-Exemptions From Written Permit Requirements, specifically exempts pyrotechnic equipment from written permit requirements. AQMD prohibitory Rule 444 - Open Burning, also provides exemption from rule provisions for various fire works and pyrotechnics activities. However, AQMD Rules 401 - Visible Emissions, and 402 – Nuisance, do not provide exemption for emissions from fireworks displays or pyrotechnics used in the creation of special effects at theme parks.

6. U.S. Department of Transportation (DOT).

Prior to transportation into and within the U.S., all explosives, including fireworks, must be classed and approved by DOT. Federal hazardous materials (hazmat) transportation law (Federal hazmat law; 49 U.S.C., 5101 et seq.) authorizes DOT to issue classification documents—EX Approvals—in accordance with the Hazardous Materials Regulations (HMR; 49 CFR, Parts 100 -185). All fireworks must be in compliance with, and meet the terms and conditions of, the American Pyrotechnic Association (APA) Standard 87-11 (, which is incorporated by reference as part of the HMR, or be submitted to a DOT-approved laboratory for examination and classification (See 49 CFR 173.56(b)). If approved, fireworks are assigned an explosives classification number by the Associate Administrator of Hazardous Materials Safety. Approval holders also must comply with the rules set forth by the U.S. Coast Guard; U.S. Customs and Border Protection; Bureau of Alcohol, Tobacco, and Firearms; as well as the Consumer Product Safety Commission.

II. PERMIT INFORMATION

The following table summarizes administrative information related to the discharge.

Table 2. Facility Information

Discharger	Any person discharging pollutant wastes associated with the public display of fireworks to surface waters in the San Diego Region
Type of Facility	Amusement and Recreation Services (SIC Code: 7999)
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	C
Pretreatment Program	No
Watershed	various
Receiving Water	All receiving surface waters within the San Diego Region
Receiving Water Type	Ocean waters, enclosed bay, estuary, and inland surface water

A. Discharger Eligibility Criteria

Any person who proposes to discharge pollutant waste from the public display of fireworks to surface waters in the San Diego Region may submit a Notice of Intent (NOI) for coverage under this Order. The NOI may address multiple fireworks events at different locations throughout the San Diego Region. When a fireworks event is hosted by one person but is operated or conducted by another person, it is the person's hosting the event duty to submit an NOI and obtain coverage under this Order. The San Diego Water Board may require the joint submission of an NOI from both the host person and the person operating the fireworks event on a case-by-case basis.

B. General Permit Application

To obtain coverage under this Order Dischargers must submit a complete application containing the following items to the San Diego Water Board:

1. A completed Notice of Intent (NOI) form shown as Attachment B signed in accordance with the signatory requirements of the Standard Provisions in Attachment D, Section V.B.1. Signatory and Certification Requirements, no later than 60 days prior to a fireworks event. During the period of May 11, 2011 through June 10, 2011, Dischargers may submit the complete application no later than 24 days prior to a fireworks event. The NOI may address multiple fireworks events at different locations throughout the San Diego Region;
2. Payment of the annual application fee, equal to the first annual fee, made payable to State Water Resources Control Board or "SWRCB;" and

3. A Fireworks Best Management Practices Plan.

The NOI, including, the application fee, and other attachments must be submitted to the following address:

CRWQCB – San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Attn: Fireworks General NPDES Order
NOTICE OF INTENT

C. Notice of Enrollment

The San Diego Water Board will review the application package for completeness and applicability to this Order. Notice of Enrollment (NOE) under this Order will be provided to the Discharger by the San Diego Water Board upon receipt of a complete NOI and application fee. The effective enrollment date will be specified in the NOE and the Discharger is authorized to discharge fireworks pollutant waste starting on the date specified in the NOE. General Permit coverage will be effective when all of the following have occurred:

1. The Discharger has submitted a complete permit application;
2. The Fireworks Best Management Practices Plan has been accepted by the San Diego Water Board; and

The San Diego Water Board has issued a Notice of Enrollment (NOE).

D. Notice of Exclusion (NOEX)

The San Diego Water Board may issue a Notice of Exclusion (NOEX), which either terminates the permit coverage or requires submittal of an application for an individual permit. An NOEX is a one-page notice that indicates that the Discharger or proposed Discharger is not eligible for coverage under this General Permit and states the reason why. This justification can include, but is not limited to, necessity to comply with a total maximum daily load or to protect sensitive water bodies).

E. Fees

Under this General Permit, fireworks discharges require no treatment systems to meet the terms and conditions of this Order and pose no significant threat to water quality. As such, they are eligible for Category 3 in section 2200(b)(8) of Title 23, California Code of Regulations (CCR). This category is appropriate because firework discharges incorporate best management practices (BMPs) to

control potential impacts to beneficial uses, and this General Permit prohibits firework residual pollutant waste from causing excursions of water quality objectives. The annual fee associated with this rating can be found in section 2200(b)(8) of Title 23, CCR, which is available at <http://www.waterboards.ca.gov/resources/fees/>.

F. Terminating Coverage

To terminate permit coverage, a Discharger must submit a complete and accurate Notice of Termination (NOT). The Discharger's coverage under this General Permit terminates on the day of the coverage termination letter issued by the San Diego Water Board. Prior to the termination effective date, the Discharger is subject to the terms and conditions of this General Permit and is responsible for submitting the annual fee and all reports associated with this General Permit. Discharger must submit an NOT when one of the following conditions occurs:

1. A new host has taken over responsibility of the Discharger's fireworks display activities covered under an existing NOI;
2. The Discharger has ceased all discharges from the application of pesticides for which it obtained General Permit coverage and does not expect to discharge during the remainder of this General Permit term; or
3. The Discharger has obtained coverage under an individual permit for all discharges required to be covered by an NPDES permit.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260). Section 122.28(a)(1) of Title 40 of the Code of Federal Regulations [40 C.F.R. §122.28(a)(1)] allows NPDES permits to be written to cover a category of discharges within the State political boundaries as a general NPDES permit. USEPA Region 9 has granted the San Diego Water Board the authority to issue general NPDES permits.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

Water Quality Control Plans. The Regional Water Quality Control Board, San Diego Region (San Diego Water Board) adopted a Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives in all receiving waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

Beneficial uses applicable to receiving waters within the San Diego Region are as follows:

Table 3. Basin Plan Beneficial Uses

Discharge Point(S)	Receiving Water Name	Beneficial Use(s)
Various	Coastal Waters (Pacific Ocean, Enclosed Bays and Estuaries, Harbors, and Lagoons)	Industrial service supply (IND), navigation (NAV), contact water recreation (REC1), non-contact water recreation (REC2), commercial and sport fishing (COMM), biological habitats of special significance (BIOL), estuarine habitats (EST)wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), marine habitat (MAR), Aquaculture (AQUA), migration of aquatic organisms (MIGR), spawning (SPWN), and shellfish harvesting (SHELL).
Various	Inland Surface Waters	Municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), industrial process supply (PROC), ground water recharge (GWR), hydropower generation (POW), contact water recreation (REC1), non-contact water recreation (REC2), biological habitats of special significance (BIOL), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), spawning (SPWN).

Requirements of this Order implement the Basin Plan.

California Ocean Plan. The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its

entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 4. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
Outfall 001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

Section III.E of the Ocean Plan specifies that waste shall not be discharged to areas designated as being of special biological significance (ASBS). Section III.E.2 provides that the Regional Water Boards may, however, approve waste discharge requirements or recommend certification for limited-term (i.e. weeks or months) activities in ASBS. Limited term activities may result in temporary and short-term changes in existing water quality. Water quality degradation shall be limited to the shortest possible time. The activities must not permanently degrade water quality or result in water quality lower than that necessary to protect existing uses, and all practical means of minimizing such degradation shall be implemented. This Order establishes requirements for discharges of residual pollutants waste into the La Jolla ASBS and the Heisler Park ASBS.

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The San Diego Water Board’s Basin Plan implements, and incorporates by reference, both the State and

federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations²² section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Impaired Water Bodies on CWA 303(d) List

The federal Clean Water Act requires States to identify and make a list of surface water bodies that are polluted. These water bodies, referred to in law as "water quality limited segments," do not meet water quality standards even after discharges of wastes from point sources have been treated by the minimum required levels of pollution control technology. Wastewater treatment plants, a city's storm drain system, or a boat yard, are a few examples of point sources that discharge wastes to surface waters. States are required to compile the water bodies into a list, referred to as the "Clean Water Act Section 303(d) List of Water Quality Limited Segments" (303(d) List). States must also prioritize the water bodies on the list and develop action plans, called total maximum daily loads (TMDLs) to improve the water quality.

The State Board updated the 2004-2006 303(d) List for California on October 25, 2006, and EPA approved it on November 30, 2006.

There are approximately 100 impaired water bodies on the 303(d) List in the San Diego Region. Most TMDLs for water bodies within the San Diego Region are under development or have not been started. However, four TMDLs for the San Diego Region need only State Board approval to be complete, and three are already complete. Of the three completed TMDLs, two impact the water quality of San Diego Bay and the third impacts the water quality of Rainbow Creek.

E. Other Plans, Policies and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases

²² All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

Discharges under this Order are required to be nontoxic. Toxicity is the adverse response of organisms to chemicals or physical agents. This prohibition is based on the Basin Plan, which requires that all waters be maintained free of toxic substances in concentrations that are lethal or produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. The Basin Plan also requires waters to be free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, or animal life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301 (b) of the CWA and implementing USEPA permit regulations (40 CFR 122.44) require that permits include conditions meeting the applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the

benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in section 125.3. This General Permit requires the use of BMPs to control and abate the discharge of pollutants from public fireworks event to surface waters within the San Diego Region.

2. Applicable Technology-Based Effluent Limitations

This General Permit will authorize the discharge of residual firework pollutant waste that may pose a threat to water quality and beneficial uses of the receiving waters. The primary mechanism for regulating such discharges will be through the development and implementation of BMPs as required by section VI.C.3. of this Order.

NPDES regulations [40 CFR 122.44(k)] allows for the use of BMPs to control or abate the discharge of pollutants under certain circumstances, including when numeric effluent limitations are infeasible. Proper implementation of BMPs will assure the protection of water quality within the receiving waters. Dischargers enrolled under this General Permit are expected to comply with all water quality objectives through the implementation of BMPs.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no

numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the Ocean Plan and CTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The designated beneficial uses of surface waters throughout the State may include municipal, domestic, industrial, and agricultural supply; water contact and non-contact recreation; navigation; groundwater recharge and freshwater replenishment; hydropower generation; wildlife habitat; cold freshwater and warm freshwater habitat; fish migration and fish spawning; marine habitat; estuarine habitat; shellfish harvesting; ocean commercial and sport fishing; areas of special biological significance; and preservation of rare and endangered species. To the extent that the Basin Plan designates additional or different beneficial uses, the Basin Plan shall control.

3. Determining the Need for WQBELs

This Order does not contain WQBELs. The San Diego Water Board finds that numeric effluent limitations are infeasible because it is impracticable to determine actual concentrations of pollutants in the fireworks waste prior to entering the receiving water. This Order requires the use of BMPs to control and abate the discharge of pollutants from public fireworks events to surface waters in the San Diego Region.

CWA section 301 (b)(1) and section 122.44(d) require NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Where numeric effluent limitations for a pollutant or pollutant parameter have not been established in the applicable state water quality control plan, 40 CFR section 122.44(d)(1)(vi) specifies that water quality-based effluent limitations (WQBELs) may be set based on USEPA criteria, and may be supplemented where necessary by other relevant information to attain and maintain narrative water quality criteria, and to fully protect designated beneficial uses.

NPDES regulations [section 122.44(k)] acknowledge that BMPs shall be included as permit conditions (when applicable) where they are authorized under section 304(e) of the CWA when (1) numeric effluent limitations are infeasible or (2) necessary to achieve limitations or carry out the purpose and intent of the CWA.

1. This General Permit regulates discharges of residual pollutant wastes which are firework constituents or breakdown products that are present after the use of the fireworks for public display. Therefore, the exact residual pollutant waste levels in the discharge are immeasurable and undefined; and
 2. It would be impractical to provide effective treatment, given the numerous short duration intermittent residual firework pollutant releases to surface waters at many different locations.
- 4. WQBEL Calculations – Not Applicable**
- 5. Whole Effluent Toxicity (WET) – Not Applicable**

D. Final Effluent Limitations

1. **Satisfaction of Anti-Backsliding Requirements – Not Applicable**
2. **Satisfaction of Antidegradation Policy**

The San Diego Water Board has determined that discharges authorized under the General Permit will be consistent with applicable antidegradation requirements of State Water Board Resolution No. 68-16, as well as USEPA policy established at 40 CFR 131.12. These provisions require that, at a minimum, existing instream water uses and the level of water quality necessary to protect those existing uses must be maintained. Where the existing water quality is better than the water quality objectives set to protect existing and potential beneficial uses, that quality must be maintained, unless specific findings are made.

3. Stringency of Requirements for Individual Pollutants

This Order requires the Discharger to develop and implement BMPs to regulate and control the discharge of waste associated with public fireworks events.

The requirements established by this Order are no more stringent than necessary to implement the mandates of the CWA.

E. Fireworks Best Management Practices Plan (FBMPP)

The Discharger shall prepare and implement a Fireworks Best Management Practices Plan (FBMPP) to prevent or reduce the discharge of pollutants associated with the public display of fireworks. The FBMPP shall address, at a minimum, the following elements:

1. Whenever practicable and economically feasible, the Discharger shall consider the use of alternative fireworks produced with new pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters.
2. Whenever practicable and feasible, the Discharger shall design the firing range, or consider alternative firing ranges, to eliminate or reduce residual firework pollutant waste discharges to waters of the United States.
3. As soon as practicable, and no later than 24 hours following a public display of fireworks, the Discharger, in addition to complying with title 19 of the California Code of Regulations, section 1003, shall, to the extent practical, collect, remove, and manage particulate matter and debris from ignited and un-ignited pyrotechnic material including aerial shells, stars (small pellets of composition that produce color pyrotechnic effects), paper, cardboard, wires and fuses found during inspection of the entire firing range, , and adjacent affected surface water(s).
4. If the fireworks are launched or ignited on barges or floating platforms, the fireworks and fireworks equipment shall be set- up, discharged and taken down in accordance with the laws and regulations applying to that display by a public display operator licensed by the State of California. All required permits, licenses and approvals shall be obtained from the authorities having jurisdiction over the fireworks display, and the parties responsible under applicable law and regulation shall comply with the requirements and conditions of those permits. All equipment used to hold and launch the fireworks shall be secured properly in accordance with applicable laws and regulations and is such a way as to minimize the risk that they would fall into the water. Barges and floating platforms shall be inspected for leaks and other potential safety issues. Other than system firing cables and common or grounding wires intended to be recovered after the display, electric igniter wires used to trigger the fireworks shall be secured to minimize the risk that the wires would fall into the water during or after discharge. As soon as practicable, and no later than 24 hours following a public display of fireworks, the decks of each barge or floating platform that contained fireworks shall be raked or swept to gather fireworks debris and prevent it from being deposited into the water. The barges shall be returned to the loading or setup area to be further cleaned and to have the mortars

removed.

5. Immediately following a public display of fireworks, all hazardous fireworks waste, including duds, resulting from the set-up, firing, and strike of the public display, including live pyrotechnics waste, shall be handled and managed in accordance with applicable fireworks and hazardous waste laws and regulations.
6. All non-hazardous solid waste resulting from the set-up, firing, and strike of the public display, including wires, boxes, and packaging, shall be collected to the extent practicable and properly disposed of.
7. Fireworks shall be packaged, transported, stored, set-up, and handled in accordance with California Code of Regulations, Title 19, Division 1, Chapter 6, Fireworks and Title 22, Chapter 33, Best Management Practices for Perchlorate Materials in order to prevent or minimize firework pollutant wastes from entering surface waters.
8. Residual firework pollutant waste discharges shall be located a sufficient distance from areas designated ASBS to assure maintenance of natural water quality conditions in these areas, except as provided in Section VII.C.2, *Special Provisions for Discharges into La Jolla and Heisler Park ASBS* of this Order.

F. Public Fireworks Display Log

The Discharger shall maintain a written log for each public fireworks display event. The log shall be completed within 5 days following each public fireworks event and shall be made available to the San Diego Water Board upon request. The log shall contain the following information:

1. The name of the organization hosting the fireworks event, together with the names and license numbers of the pyrotechnic operators actually in charge of the display;
2. The date, time, and duration of the public fireworks event;
3. The location of the public fireworks event;
4. The affected receiving waters;
5. Certification that the FBMPP was fully implemented; and
6. The amounts of fireworks debris collected, the dates, times and visual monitoring observations noted from after event firing range inspections and any other pertinent information

G. Interim Effluent Limitations – Not Applicable

H. Land Discharge Specifications- Not Applicable

I. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The discharge shall at all times be in conformance with applicable water quality standards and shall not cause an excursion above any applicable narrative or numeric water quality objective, including but not limited to all applicable provisions contained in:

1. The San Diego Water Board's *Water Quality Control Plan for the San Diego Basin* (Basin Plan), including beneficial uses, water quality objectives, and implementation plans;
2. State Water Board plans for water quality control including the:
 - a) Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries (Thermal Plan), and
 - b) The *California Ocean Plan* (Ocean Plan), including beneficial uses, water quality objectives, and implementation plans;
3. State Water Board policies for water quality control including the
 - a) Water Quality Control Policy for the Enclosed Bays and Estuaries of California,
 - b) Policy for Implementation of Toxics Standards for Inland Surface Waters, and Enclosed Bays, and Estuaries of California;
 - c) State Water Resources Control Board's Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality which includes the following narrative objectives
 - (1) Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities; and
 - (2) Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health.
 - d) Resources Control Board's Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality; and

- e) The Statement of Policy with Respect to Maintaining High Quality of Waters in California (State Water Board Resolution No. 68-16)
- 4. Priority pollutant criteria promulgated by the U.S. Environmental Protection Agency (U.S. EPA) through the:
 - a) National Toxics Rule (NTR)²³ (promulgated on December 22, 1992 and amended on May 4, 1995) and
 - b) California Toxics Rule (CTR)^{24, 25}

B. Groundwater – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring – Not Applicable

C. Whole Effluent Toxicity Testing Requirements – Not Applicable

D. Receiving Water Monitoring

1. Surface Water

a. General Water Quality Effects on Surface Waters

The effects of fireworks pollutant waste on the environment are relatively unknown at this time. The infrequency of fireworks displays at most locations, coupled with the wide dispersion of constituents make detection of residual firework pollutant waste difficult. In addition, pollution from other sources makes it difficult to measure the amount of pollution and subsequent effects that specifically comes from fireworks. The possible toxicity of any fallout may also be affected by the amount of black powder used, type of oxidizer, colors produced and launch method.

²³ 40 CFR 131.36

²⁴ 65 Federal Register 31682-31719 (May 18, 2000), adding Section 131.38 to 40 CFR

²⁵ If a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies

A study²⁶ was conducted on a small lake located at EPCOT Center, a theme park at the Walt Disney World Resort in Lake Buena Vista, Florida, between 1982 and 1992, to evaluate the impact of repeat fireworks displays (2,000 shows over a decade). Sampling of both water-column and sediments was conducted intermittently over the ten year period. The testing revealed higher than normal concentrations of antimony, barium, and strontium, three common ingredients of fireworks, demonstrating that residual firework pollutant waste does accumulate over time.

A team led by the U. S. Environmental Protection Agency's Richard Wilkin, have conducted research on the use of pyrotechnic devices over bodies of water noting concerns over the effects of environmental perchlorate on human health and wildlife. Sources of perchlorate range from lightning and certain fertilizers to the perchlorate compounds in rocket fuel and explosives. It had been long suspected that community fireworks displays were another source, but few studies had been done on the topic. Wilkin's group has now established fireworks displays as a source of perchlorate contamination by analyzing water in an Oklahoma lake before and after annual Fourth of July fireworks displays in 2004, 2005 and 2006.²⁷ Within 14 hours after the fireworks, perchlorate levels rose 24 to 1,028 times above background levels. Levels peaked about 24 hours after the display, and then decreased to the pre-fireworks background within 20 to 80 days.

The San Diego Water Board has reviewed monitoring conducted to date by SeaWorld San Diego. As described in greater detail in Section I.D above, SeaWorld has conducted annual fireworks related monitoring for sediment and water quality parameters since 2001. Water chemistry sampling documented elevated levels of pollutants within the fireworks discharge zone, with some pollutants exceeding water quality criteria. Sediment monitoring showed enrichment of metals within the fireworks fallback area, though short-term sediment toxicity testing was inconclusive and toxicity testing for sublethal effects, a requirement under the SWRCB Sediment Quality Control Plan, was not conducted or required. For benthic communities, differing benthic communities were documented, though the reference sites and fallback area had differing habitat types.

b. Net Explosive Weight

SeaWorld conducts nightly fireworks displays during the summer months between April and September and averages between 110 and 120 shows per year. The data in Table 5 indicates that the firework displays vary in length from approximately 6 minutes to 20 minutes depending on the

²⁶ Thomas A. Debusk, Jeffrey J. Keaffaber, Benedict R. Schwegler, Jr., John Repoff, Environmental Effects of Fireworks on Bodies of Water,

²⁷ Wilkin, R.T., D.D. Fine, and N.G. Burnett. (2007). "Perchlorate Behavior in a Municipal Lake Following Fireworks Displays." *Environmental Science and Technology*, 41: 3966–3971.

number of firework aerial shells ignited during the displays. The maximum residual firework pollutant loading on the receiving water occurs on the Fourth of July event when up to 1750 aerial shells are ignited with an estimated net explosive weight of 961 pounds.

Table 5. SeaWorld Fireworks Events

Fireworks Display Type	Approximate Show Length	Aerial Shells Fired (Average)	Estimated Net Explosive Weight (in pounds)
Typical	6 minutes	Up to 250	216
Special	12 minutes	Up to 1000	Not Reported
Major	20 minutes	Up to 1750	961

c. Receiving Waters With Required Monitoring Under this Order

Between June 2010 and December 2010 there were approximately 66 Marine Event Permits for fireworks events issued by the U.S. Coast Guard for Mission Bay and San Diego Bay. Approximately 11 of the Marine Event Permits issued were for fireworks shows over Mission Bay and approximately 55 were for fireworks shows over San Diego Bay.

The San Diego Water Board currently does not have any information regarding additional fireworks events discharging to other surface water bodies within the region, with the exception of the Pacific Ocean. While the San Diego Water Board has received some documentation regarding the occurrence of fireworks events over the Pacific Ocean, no monitoring data has been provided to the San Diego Water Board for these discharges. This Order does not require receiving water monitoring for fireworks displays over the Pacific Ocean.

The Southern California Coastal Water Research Project (SCCWRP) routinely conducts a comprehensive assessment of the ecological condition of the Pacific Ocean at hundreds of sampling locations along the Southern California Bight.²⁸ The Bight Monitoring Program has several components including coastal ecology and offshore water quality to assess conditions of marine resources in the Bight and evaluate effects of their exposure to pollutants. The monitoring and assessment is conducted by SCCWRP at regular intervals. The current monitoring survey called Bight 2008 is the fourth in a series of regional surveys in the Southern California Bight that began in 1994. Receiving water monitoring for public fireworks events over

²⁸ The Southern California bight is the 400 miles of recessed coastline between Point Conception, in Santa Barbara County, and Cabo Colnett, south of Ensenada in Mexico.

the Pacific Ocean in the San Diego Region may be conducted as part of the regular SCCWRP Bight Monitoring Surveys. These surveys are funded in part by the Surface Water Ambient Monitoring Surcharge paid by the Dischargers as part of the annual fee for coverage under this Order. Utilizing a regional approach is expected to provide baseline information to assess water quality conditions in Pacific Ocean areas located at or near firework events and evaluate the effects of firework residual pollutant waste discharges. In 2004 the SWRCB adopted Resolution No. 2004-0052 which, in part, established an ASBS Natural Water Quality Committee (NWQC). The NWQC's purpose and role is to provide guidance on determining "natural water quality" and provide scientific advice regarding assessing impacts in ASBS. The NWQC produced a Summation of Findings (SCCWRP Technical Report 625) in September 2010. Additionally, the voters of California approved bond measures for Proposition 84 that provides funding to responsible parties to assist responsible parties to comply with the discharge prohibition into ASBS. An estimated \$1,000,000 of funds will be set aside to conduct monitoring, including a regional water quality assessment in accordance with BMP monitoring. This effort is expected to better characterize the receiving water condition of ASBS across the state, including those which may receive discharges from fireworks.

d. Discharger Categories

SeaWorld San Diego is a Category 1 Discharger. All other dischargers are Category 2 Dischargers.

e. Category 1 Discharger Monitoring

Category 1 Dischargers are required to monitor in accordance with Section IX.A. of the Monitoring and Reporting Program. SeaWorld San Diego is considered a Category 1 Discharger. This monitoring is needed to ensure compliance with receiving water limitations.

Mission Bay and the mouth of the San Diego River form a 4,000 acre aquatic park. Water quality within Mission Bay generally is lower than that of the coastal ocean water due to the poor flushing characteristics of the bay and the input of nutrient material from storm runoff.

San Diego Bay is approximately 13 miles long and varies from ½ to 1 ½ miles in width. It is surrounded by metropolitan San Diego and most of the shoreline has been heavily developed for recreational, residential, military, and industrial use.

f. Water Chemistry

Water chemistry monitoring requirements were developed based on the results obtained from the SeaWorld San Diego monitoring, which are discussed in section I.D of the fact sheet. The required list of pollutants to be monitored is considered a minimum list, and Discharger(s) may elect to monitor for additional constituents of concern. Additionally, the ultimate fate and transport of pollutants from the discharge is required to be addressed by a conceptual model, which is a component of the SWRCB Sediment Quality Control Plan. It is expected that the development of a conceptual model will enable the discharger(s) to determine, and subsequently propose, a sampling frequency and timing that is representative of the discharge.

g. Sediment Monitoring

The Order requires sampling of sediment chemistry, toxicity and the benthic community. The basis for sediment monitoring under the Order is based on the requirements in the SWRCB Sediment Quality Control Plan. Sediment chemistry sampling has been expanded to include metals the San Diego Water Board determined to be at elevated levels in reviewing the SeaWorld San Diego monitoring data. It is important to note that the required sediment chemistry list includes constituents that are not included in fireworks discharges. This data collected will enable proper stressor identification to be conducted if sediments fail to meet the Sediment Quality Objective. Sediment toxicity must be conducted pursuant to the SWRCB Sediment Quality Control Plan, which requires a short-term and sublethal toxicity test.

The benthic community assessment has been modified to require monitoring that reflects the benthic habitat subject to the discharge. For unvegetated subtidal habitats the monitoring must be done in accordance with the line of evidence approach described in Section V.G of the SWRCB Sediment Quality Control Plan. Where the subtidal habitat is vegetated (*Zostera marina*, eelgrass), the line of evidence tool under Section V.G does not accurately portray impacts to benthic communities, as the tool was developed specifically for unvegetated subtidal habitat. However, the SWRCB Sediment Quality Control Plan does provide guidance under Section V.J for situations when a particular line of evidence may not be suitable. This alternative approach, which calls for utilization of a reference site for statistical comparison, is required under the Order. The Order requires the same chemistry and toxicity testing be utilized as in found Section V of the SWRCB Sediment Quality Control Plan, but requires a line of evidence for the benthic community which utilizes invertebrates and pertinent regulatory guidance to protect receiving waters, which for vegetated subtidal includes the Southern California Eelgrass Mitigation

Policy from the National Marine Fisheries Service²⁹. It is expected that the benthic community assessment can utilize invertebrates and eelgrass in the line of evidence approach to estimate levels of impacts, consist with the SWRCB Sediment Quality Control Plan requirements under Section V.J.

Monitoring Frequency and Discussion: The monitoring requirements under the Order do not specify a required frequency of monitoring for water chemistry, and require a minimum number of one sediment monitoring event (using all lines of evidence) every 3 years. The frequency of sediment monitoring is based upon the guidelines from the SWRCB Sediment Quality Control Plan, which specifies a minimum frequency for minor discharges and regional monitoring groups (see Section VII.D of the SWRCB Sediment Quality Control Plan). The proposed frequency of water chemistry monitoring is expected to be based upon results from the conceptual model required under the Water and Sediment Monitoring Plan required under this Order.

h. Category 2 Discharge Monitoring

Category 2 Dischargers will not be required to conduct monitoring at this time, unless the San Diego Water Board determines monitoring is needed based on the following considerations described in Section IX.B. of this Order:

- i. Receiving water body characteristics including circulation, depth, assimilative capacity; CWA 303(d) listed impairments, and beneficial uses;
- ii. Receiving water body characteristics including circulation, depth, assimilative capacity; CWA 303(d) listed impairments, and beneficial uses;
- iii. The frequency of firework events in the receiving water including those at or near the same firework fallout area;
- iv. The estimated firework pollutant loading from an individual or repeated firework event(s) affecting the same water body or segment thereof;
- v. Accumulative effects from repeat firework events in the same location or other firework events affecting the same water body or segment thereof;
- vi. Proximity of the firework event to existing or proposed State Water Quality Protection Areas, inclusive of Areas of Special Biological Significance (ASBS) or other environmental sensitive receiving waters;

²⁹ http://swr.nmfs.noaa.gov/hcd/HCD_webContent/aboutus/policies.htm

or

vii. Any other relevant water quality factors

2. Groundwater

Discharges of wastes from public fireworks events to land are subject to regulation under the San Diego Water Board's Conditional Waiver No. 11 and are not subject to regulation under this Order. Additional information on the San Diego Water Board Conditional Waivers can be found at the San Diego Water Board website: <http://www.waterboards.ca.gov/sandiego/>

E. Other Monitoring Requirements – Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D to the order.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

This Order may be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Parts 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations or adoption of new regulations by the State Water Board or San Diego Water Board, including revisions to the Basin Plan.

2. Special Provisions for Discharges into La Jolla and Heisler Park ASBS

Public displays of fireworks are conducted every Fourth of July by the La Jolla Community Fireworks Foundation at the Scripps Park near the La Jolla ASBS in San Diego County and by the City of Laguna Beach over the Heisler Park ASBS in Orange County. These events result in the discharge of residual firework pollutant waste to these ASBS areas.

Public firework display events have been occurring near the La Jolla ASBS since 1984. The annual Fourth of July event conducted at Scripps Park by the La Jolla Community Fireworks Foundation is located approximately one-quarter mile from the La Jolla ASBS. The fireworks fallout area may extend into portions of the ASBS. The event typically runs 20-25 minutes. The number and size of shells launched are unknown at this time. It is estimated that, in 2010, less than 500 pounds net weight of pyrotechnics material is discharged into the air over or adjacent to the La Jolla ASBS during this single event.

Public firework display events have been occurring over the Heisler Park ASBS in Orange County since approximately 2001. The annual Fourth of July event conducted by the City of Laguna Beach typically runs approximately 15 minutes and during that time approximately 667 aerial shells are ignited and launched. The aerial shells range in size from 2.5 inches to 5 inches. It is estimated that 600 pounds of pyrotechnic material is discharged into the air over or adjacent to the Heisler Park ASBS during this single event. The City of Laguna Beach estimates that between 20 to 46 percent of the firing range is over land. Beach clean-up is mandatory after the event and additional clean-up is conducted the morning after each event.

The Ocean Plan explicitly prohibits discharges into an ASBS unless an exception has been granted by the State Water Resources Control Board. The Ocean Plan does, however, allow the Regional Water Board's may approve waste discharge requirements for limited term activities in ASBS as described in Section III.E. subject to the following restrictions:

- Limited term activities may result in temporary and short term changes in existing water quality;
- Water quality degradation shall be limited to the shortest possible time; and
- The activities may not permanently degrade water quality or result in water quality lower than that necessary to protect existing uses, and all practicable means of minimizing such degradations shall be implemented.

A once per year fireworks event of less than 1000 pounds net explosive

weight that complies will all the provisions specified in this Order and meets the specifications below is not likely to permanently degrade water quality or result in water quality lower than that necessary to protect existing beneficial uses of the La Jolla ASBS or Heisler Park ASBS. Proper implementation of the minimum specified BMPs required under this Order will also minimize residual firework pollutant waste discharges into the ASBS and water quality degradation of the ASBS.

The San Diego Water Board has determined that the annual Fourth of July public firework displays near the La Jolla ASBS and in the Heisler Park ASBS are limited-term short duration activities and are eligible for approval of waste discharge requirements under Ocean Plan Section III.E. The San Diego Water Board has established the following special conditions in section VII.C. of this Order to assure maintenance of natural ocean water quality conditions and protection of beneficial uses in the ASBS while allowing continued discharges of residual firework pollutant waste discharges to the ASBS at the annual Fourth of July public firework display events. Discharges of residual fireworks pollutant waste by the La Jolla Community Fireworks Foundation near the La Jolla ASBS and by the City of Laguna Beach into the Heisler Park ASBS may continue subject to the following conditions:

- a. The residual firework pollutant waste discharges shall be limited to those resulting from one Fourth of July celebration public fireworks display event per calendar year.
- b. The net explosive weight of fireworks used in the public fireworks display event shall not exceed 1,000 pounds of pyrotechnic material.
- c. The areal extent of the firing range in the ASBS shall be limited to the maximum extent practicable to prevent or reduce residual firework pollutant waste discharges into the ASBS.
- d. The residual firework pollutant waste discharges shall not permanently alter natural water quality conditions³⁰ in the ASBS receiving waters. Temporary excursions from natural ocean water quality conditions resulting from residual firework pollutant waste discharges within any portion of the firing range located in the ASBS are permissible if beneficial uses are protected.
- e. The residual firework pollutant waste discharges shall comply with all other applicable provisions, including water quality standards, of the Ocean Plan.

³⁰ Natural ocean water quality will be determined by the Southern California Water Research Project (SCCWRP) ASBS Monitoring Program which is designed to define natural water quality in ASBS areas at selected reference sites.

3. Special Provisions for SeaWorld San Diego Discharges

On December 17, 2007, the San Diego Water Board made revisions to the NPDES permit for SeaWorld San Diego (Order No. R9-2005-0091, NPDES No. CA0107336) to incorporate requirements for the discharge of pollutant waste associated with the public display of fireworks to Mission Bay. Sea World Inc. has submitted a Report of Waste Discharge dated October 15, 2009 and applied for a NPDES permit renewal of Order No. R9-2005-0091 for 1) the discharge of up to 9.36 million gallons per day of treated wastewater from SeaWorld, San Diego and 2) the discharge of waste from public fireworks displays to Mission Bay. The October 15, 2009 Report of Waste Discharge submitted by Sea World Inc. is deemed complete for the purpose of enrollment under this Order. The enrollment date will be effective upon the effective date of this Order and SeaWorld San Diego is authorized to discharge residual firework pollutant waste starting on this date pursuant to the requirements of this Order. The requirements of this Order will supersede the requirements of Order No. R9-2005-0091 for residual firework pollutant waste discharges upon the effective date of this Order.

4. Special Studies and Additional Monitoring Requirements – Not Applicable

5. Construction, Operation, and Maintenance Specifications – Not Applicable

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions – Not Applicable

8. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The San Diego Water Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a General National Pollutant Discharge Elimination System (NPDES) permit for discharges of waste associated with public display of fireworks. As a step in the WDR adoption process, the San Diego Water Board staff has developed tentative WDRs. The San Diego Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The San Diego Water Board has notified interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. The draft tentative Order was electronically e-mailed to all known interested persons on March 21, 2011, posted on the San Diego Water

Board's webpage shortly thereafter. Notification was published in the San Diego Union Tribune, the Orange County Register and the (Riverside) Press-Enterprise on March 21, 2011.

B. Written Comments

Interested persons were invited to submit written comments concerning this Order prior to its adoption by the San Diego Water Board. Comments were required to be submitted either in person or by mail to the Executive Office at the San Diego Water Board at the address above on the cover page of this Order.

C. Public Hearing

The San Diego Water Board held a public hearing on this Order during its regular Board meeting on the following date and time and at the following location:

Date: **May 11, 2011**
Time: **9:00 AM**
Location: **Regional Water Quality Control Board
Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, CA 92123**

Interested persons were invited to attend. At the public hearing, the San Diego Water Board heard testimony, if any, pertinent to the discharge and this Order.

D. Waste Discharge Requirements Petitions

Any person affected by adoption of this Order of the San Diego Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations Title 23 section 2050. The petition must be received by the State Water Board (Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812) within 30 days of the date of adoption of this Order. Copies of the laws and regulations applicable to filing petitions will be provided upon request.

E. Information and Copying

Documents related to this Order, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego Water Board by calling (858) 467-2952.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding this Order should contact the San Diego Water Board, reference this facility, and provide a name, address, and phone number.

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APPENDIX B

GENERAL PERMIT REPORTING FORMS

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

NOTICE OF INTENT

ORDER NO. R9-2011- 0022
NPDES NO. CAG999002

**GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES)
PERMIT FOR RESIDUAL FIREWORKS POLLUTANT WASTE DISCHARGES
TO WATERS OF THE UNITED STATES IN THE SAN DIEGO REGION FROM
THE PUBLIC DISPLAY OF FIREWORKS**

I. NOTICE OF INTENT STATUS

Mark only one Item:: <input type="checkbox"/> New Application <input type="checkbox"/> Change of Information: WDID# _____
<input type="checkbox"/> Change of Discharger or Responsibility WDID# _____

II. STIPULATION OF APPLICABILITY

<input type="checkbox"/>	has reviewed the eligibility criteria of the subject Order as stated below and hereby certifies that the criteria is met.
Eligibility Criteria Any person who proposes to discharge pollutant waste from the public display of fireworks to surface waters in the San Diego Region may submit a Notice of Intent (NOI) for coverage under this Order. When a fireworks event is hosted by one person but is operated or conducted by another person, it is the host's duty to submit an NOI and obtain coverage under the Order. The San Diego Water Board may require the joint submission of an NOI from both the host and the person operating the fireworks event on a case-by-case basis.	
<input type="checkbox"/>	has reviewed the Order and hereby certifies that:
1.	understands the requirements of the Order; and
2.	will comply with all terms, conditions, and requirements of the Order.

III. DISCHARGER INFORMATION

Discharger Name:			
Mailing Address			
City	County	State	ZIP
Contact Person Name and Title			
Contact Person e-mail		Contact Person Phone	

IV. BILLING INFORMATION

<input type="checkbox"/> Same as Discharger Information (Enter information <u>only</u> if different from Section III above)			
Discharger Name:			
Mailing Address			
City	County	State	ZIP
Contact Person Name and Title			
Contact Person e-mail		Contact Person Phone	

V. FIREWORKS BEST MANAGEMENT PRACTICES PLAN

Has a Fireworks Best Management Practices Plan been prepared pursuant to the requirements of this Order? <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> If yes, check the box and attach a copy of the Fireworks Best Management Practices Plan to this form.

VI. APPLICATION FEE

Have you included payment of the filing fee (for first-time enrollees only) with this submittal? <input type="checkbox"/> Yes <input type="checkbox"/> No
The initial fee and annual fee are based upon the type of pollutants to be discharged or potentially discharged.
Make checks payable to " State Water Resources Control Board " and include "Fireworks General NPDES Order" in the check memo field.
Category 3 Lowest Threat to Water Quality Discharges that require minimal or no treatment systems to meet limits and pose no significant threat to the environment in accordance with California Code Of Regulations Title 23, Division 3, Chapter 9, Waste Discharge Reports And Requirements Article 1. Fees. (Fees amounts are subject to change. The fee for enrollment under this Order as of September 23, 2010 is \$1,200 plus \$252 surcharge = \$1,452)

VII. CERTIFICATION

I certify under penalty of law that the information provided in this application and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the criteria for eligibility will be complied with.

Printed Name:

Signature*:

Date:

Title:

* The appropriate person must sign the application form. See Standard Provision V.B.1 Signatory and Certification Requirements. Acceptable signatures are:

1. for a corporation, a principal executive officer of at least the level of senior vice-president;
2. for a partnership or individual (sole proprietorship), a general partner or the proprietor;
3. for a governmental or public agency, either a principal executive officer or ranking elected/appointed official.

Submit the NOI and application fee to the following address:

CRWQCB – San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Attn: Fireworks General NPDES Order
NOTICE OF INTENT

I. STATE USE ONLY

WDID:	Staff Initials:	Status:
Date NOI Received:	Check No.:	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete <input type="checkbox"/> Withdrawn <input type="checkbox"/> Pending Additional Information
Date NOI Processed:	Fee Amount Received: \$	
CIWQS Place No:	CIWQS Reg. Meas. No:	
Comments:		

Submit the NOI and application fee to the following address:

Regional Water Quality Control Board – San Diego
 9174 Sky Park Court, Suite 100
 San Diego, CA 92123

ATTN: General Permit for Public Displays of Fireworks
 Core Regulatory Unit
 NOTICE OF INTENT

PUBLIC DISPLAY OF FIREWORKS POST EVENT REPORT FORM

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

POST FIREWORKS DISPLAY REPORT

This form shall be completed no later than thirty (30) days following a public display of fireworks event and made available to the San Diego Water Board upon request. Reports shall be submitted to the San Diego Water Board in accordance with the schedule outlined in Section X.B.3 of the Monitoring and Reporting Program.

Completed forms may be submitted electronically on compact disk or by hard copy to the San Diego Water Board office. The San Diego Water Board may accept electronic submission of this form (Check with the San Diego Water Board before submitting electronically).

Name of Organization Hosting the Event		WDID No.	
Contact Person for Organization Hosting the Event: Name: Phone Number: Email:			
Location of Event – Address and GPS Coordinates		Name of Receiving Water(s)	
Date of Display	Time of Display FROM to		
Map. Attach a map or diagram identifying the firing range, adjacent shorelines, quays, and docks, any other appropriate features of the firing range and adjacent affected surface water(s). The firing range is that area over which fireworks may travel by design or accident and upon which firework pollutant waste may fall. It includes the fireworks launching area and adjacent shorelines, quays, docks and the fireworks fallout area.			
Name and License No. of Pyrotechnic Operators			
1.			
2.			
3.			

Particulars of Display*						Low Level Items*		Ground Displays*	
Shell Size	No. Single Breaks	No. Multi Breaks	Shell Size	No. Single Breaks	No. Multi Breaks	Type	Qty	Type	Qty
25 mm			7"			MINES		SETS	
80 mm			8"			ROMANS		DEVICES	
2"			9"			COMETS			
3"			10"			CAKES			
4"			11"						
5"			12"						
6"									
Net Explosive Weight:									
Were alternative fireworks used? If so, indicate which fireworks were environmentally friendly.									
Defective Shells - List Manufacturer's Name, Size Of Shell, And Malfunction.*									
Were the entire firing range (including the fireworks launching area, adjacent shorelines, quays, docks and the fireworks fallout area), barge(s) (if used) and adjacent surface water(s) inspected and cleaned of particulate matter and debris from ignited and un-ignited pyrotechnic material within 24 hours following the display?									
<input type="checkbox"/> Yes Date _____ Time _____ <input type="checkbox"/> No									
If no, explain:									
Amount of debris collected from the firing range: _____ lbs dry weight									
Amount of floating debris collected from adjacent surface water(s): _____ lbs wet weight _____ lbs dry weight (if known)									
<i>I certify under penalty of law that the information provided in this application and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the criteria for eligibility will be complied with.</i>									

Printed Name:	
Signature:	Date:
Title:	

*May attach a copy of the Pyrotechnic Operator Post Display Report submitted to the Office of the State Fire Marshall to satisfy this requirement.

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APPENDIX C

BIG BAY BOOM (2013-2016) MONITORING DATA TABLES

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**Big Bay Boom - 2013 Chemistry Data
Arsenic Results vs. Regulatory Criterion**

Arsenic Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0300	0.0122	1.42	1.45	1.45	1.38	36	36	80	none
	Total			1.54	1.61	1.63	1.65				
600	Filtered			1.47	1.46	1.45	1.41				
	Total			1.53	1.58	1.65	1.65				
900	Filtered			1.4	1.44	1.51	1.27				
	Total			1.57	1.65	1.69	1.39				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Barium Results vs. Regulatory Criterion**

Barium Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0500	0.0252	8.53	8.76	9.15	8.81	none	none	none	none
	Total			8.85	8.96	9.58	9.57				
600	Filtered			8.50	9.07	9.16	9.5				
	Total			9.25	8.95	9.95	9.87				
900	Filtered			8.70	9.36	9.27	8.14				
	Total			9.20	9.22	9.52	9.05				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Cadmium Results vs. Regulatory Criterion**

Cadmium											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0300	0.00567	0.0769	0.0766	0.0822	0.0706	9.3	9.3	10	none
	Total			0.0791	0.0856	0.0802	0.0907				
600	Filtered			0.0809	0.0782	0.0815	0.0797				
	Total			0.082	0.0800	0.0936	0.0883				
900	Filtered			0.0805	0.0785	0.0814	0.0579				
	Total			0.0822	0.0837	0.0932	0.0879				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Chromium Results vs. Regulatory Criterion**

Chromium											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.500	0.164	0.319 J	0.315 J	0.319 J	0.321 J	50	50	20	none
	Total			0.535	0.549	0.569	0.538				
600	Filtered			0.328 J	0.325 J	0.389 J	0.344 J				
	Total			0.599	0.572	0.646	0.529				
900	Filtered			0.300 J	0.331 J	0.320 J	0.278 J				
	Total			0.588	0.477 J	0.563	0.604				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter; J = Value is below the RL but above the MDL, reported value is estimated.
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Cobalt Results vs. Regulatory Criterion**

Cobalt Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0500	0.00486	0.0324 J	0.0356 J	0.0441 J	0.0336 J	none	none	none	none
	Total			0.0804	0.0933	0.0872	0.0950				
600	Filtered			0.0419 J	0.0386 J	0.0422 J	0.0385 J				
	Total			0.0905	0.0880	0.105	0.0969				
900	Filtered			0.0359 J	0.0355 J	0.0442 J	0.0184 J				
	Total			0.0903	0.0870	0.102	0.0894				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter; J = Value is below the RL but above the MDL, reported value is estimated.
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Copper Results vs. Regulatory Criterion**

Copper Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0300	0.00898	2.64	2.51	2.88	2.67	2.4	3.1	30	none
	Total			3.66	4.14	4.03	3.96				
600	Filtered			2.75	2.56	2.69	2.58				
	Total			3.94	4.01	4.22	3.93				
900	Filtered			2.69	2.62	2.95	2.19				
	Total			4.05	3.96	4.28	3.75				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level; **bold value** = exceeds CTR; *italic* = exceeds NTR
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter; J = Value is below the RL but above the MDL, reported value is estimated.
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Lead Results vs. Regulatory Criterion**

Lead Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0300	0.0135	0.0571	0.0337	0.0339	0.0257 J	8.1	8.1	20	none
	Total			0.348	0.365	0.348	0.318				
600	Filtered			0.328	0.0316	0.0412	0.0356				
	Total			0.716	0.353	0.375	0.344				
900	Filtered			0.035	0.0336	0.0397	0.0396				
	Total			0.320	0.327	0.352	0.316				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Mercury Results vs. Regulatory Criterion**

Mercury Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0500	0.0321	ND	<i>0.0369 J</i>	ND	ND	0.025	0.05	0.04	none
	Total			ND	ND	<u>0.0502</u>	ND				
600	Filtered			ND	ND	ND	ND				
	Total			ND	<i>0.0334 J</i>	<u>0.0443 J</u>	<i>0.0391 J</i>				
900	Filtered			ND	<i>0.0345 J</i>	ND	ND				
	Total			ND	ND	ND	ND				

Notes:
 Analysis method: EPA 7470A
 RL = reporting limit; MDL = minimum detection level; **bold value** = exceeds CTR; *italic* = exceeds NTR; underline = exceeds OP; ND = Not detected at reporting limit
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter; J = Value is below the RL but above the MDL, reported value is estimated.
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Molybdenum Results vs. Regulatory Criterion**

Molybdenum											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0500	0.0243	17.1	14.9	16.2	15.3	none	none	none	none
	Total			15.9	16.6	16.8	18.4				
600	Filtered			16.1	15.5	16.2	16.5				
	Total			16.2	15.5	19.6	18.7				
900	Filtered			16.7	16.3	16.4	16.5				
	Total			16.0	16.0	18.2	16.5				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Nickel Results vs. Regulatory Criterion**

Nickel											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0500	0.00607	0.682	0.679	0.665	0.530	8.2	8.2	50	none
	Total			0.666	0.755	0.710	0.733				
600	Filtered			0.710	0.713	0.628	0.648				
	Total			0.738	0.721	0.820	0.772				
900	Filtered			0.650	0.681	0.740	0.349				
	Total			0.718	0.735	0.809	0.663				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Potassium Results vs. Regulatory Criterion**

Potassium Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	1.00	0.0744	295	323	329	311	none	none	none	none
	Total			292	317	334	332				
600	Filtered			328	319	340	322				
	Total			322	322	330	325				
900	Filtered			323	335	331	316				
	Total			304	335	337	297				

Notes:
 Analysis method: EPA 6260
 RL = reporting limit; MDL = minimum detection level;
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; mg/L = milligrams per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Selenium Results vs. Regulatory Criterion**

Selenium Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0500	0.0121	0.0414 J	0.0409 J	0.0531	0.0486 J	71	71	150	none
	Total			0.0428 J	0.0516	0.0463 J	0.0427 J				
600	Filtered			0.0441 J	0.0360 J	0.0623	0.0401 J				
	Total			0.0533	0.0429 J	0.0566	0.0417 J				
900	Filtered			0.0461 J	0.0451 J	0.0618 J	0.0594				
	Total			0.0513	0.0497 J	0.0507	0.0357 J				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter; J = Value is below the RL but above the MDL, reported value is estimated.
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Silver Results vs. Regulatory Criterion**

Silver											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0500	0.00822	ND	ND	ND	ND	none	none	7	none
	Total			ND	ND	ND	ND				
600	Filtered			ND	ND	ND	ND				
	Total			ND	ND	ND	ND				
900	Filtered			ND	ND	ND	ND				
	Total			ND	ND	ND	ND				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level; ND = Not detected at reporting limit
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Thallium Results vs. Regulatory Criterion**

Thallium											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0300	0.00870	ND	ND	ND	ND	none	none	none	none
	Total			ND	ND	ND	ND				
600	Filtered			ND	ND	ND	ND				
	Total			ND	ND	ND	ND				
900	Filtered			ND	ND	ND	ND				
	Total			ND	ND	ND	ND				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level; ND = Not detected at reporting limit
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Tin Results vs. Regulatory Criterion**

Tin											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0100	0.00172	ND	ND	ND	ND	none	none	none	none
	Total			ND	ND	ND	ND				
600	Filtered			ND	ND	ND	ND				
	Total			ND	ND	ND	ND				
900	Filtered			ND	ND	ND	ND				
	Total			ND	ND	ND	ND				

Notes:
 Analysis method: EPA 6260
 RL = reporting limit; MDL = minimum detection level; **bold value** = exceeds one or more Water Quality Standards; ND = Not detected at reporting limit
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; mg/L = milligrams per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Titanium Results vs. Regulatory Criterion**

Titanium											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.0100	0.00132	ND	ND	ND	ND	none	none	none	none
	Total			0.00512 J	ND	ND	ND				
600	Filtered			ND	ND	ND	ND				
	Total			ND	ND	ND	ND				
900	Filtered			ND	ND	ND	ND				
	Total			ND	ND	0.00333 J	ND				

Notes:
 Analysis method: EPA 6260
 RL = reporting limit; MDL = minimum detection level; ND = Not detected at reporting limit
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; mg/L = milligrams per liter; J = Value is below the RL but above the MDL, reported value is estimated.
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Vanadium Results vs. Regulatory Criterion**

Vanadium											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.05	0.0332	2.70	2.63	2.75	2.4	none	none	none	none
	Total			2.88	3.11	3.02	3.06				
600	Filtered			2.75	2.80	2.68	2.69				
	Total			2.95	3.11	3.27	3.18				
900	Filtered			2.65	2.66	2.83	1.61				
	Total			3.03	3.13	3.29	2.77				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Zinc Results vs. Regulatory Criterion**

Zinc											
Station (Distance, ft)	Filtered / Total	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	Filtered	0.500	0.0736	9.30	8.16	9.25	7.45	81	81	200	none
	Total			8.72	8.84	8.69	8.34				
600	Filtered			10.3	9.74	8.62	7.97				
	Total			8.41	8.58	9.23	8.30				
900	Filtered			9.55	9.56	10.8	4.33				
	Total			8.36	8.29	9.28	7.92				

Notes:
 Analysis method: EPA 1640
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Bis-Phthalate Results vs. Regulatory Criterion**

Bis-Phthalate Station (Distance, ft)	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	5.0	1.6	ND	ND	ND	ND	none	none	none	none
600			ND	ND	ND	ND				
900			ND	ND	ND	ND				

Notes:
 Analysis method: EPA 8270C
 RL = reporting limit; MDL = minimum detection level; ND = Not detected at reporting limit
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Perchlorate Results vs. Regulatory Criterion**

Perchlorate, Total Station (Distance, ft)	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	10	0.29	ND	ND	ND	1.10 J	none	none	none	none
600			ND	ND	ND	0.30 J				
900			ND	1.20 J	ND	1.20 J				

Notes:
 Analysis method: EPA Method 331.0 (M)
 RL = reporting limit; MDL = minimum detection level; ND = Not detected at reporting limit
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; µg/L = micrograms per liter; J = Value is below the RL but above the MDL, reported value is estimated.
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

**Big Bay Boom - 2013 Chemistry Data
Phosphorus Results vs. Regulatory Criterion**

Phosphorus, Total Station (Distance, ft)	RL	MDL	PRE (µg/L)	T+0 (µg/L)	T+30min (µg/L)	T+60min (µg/L)	NTR (µg/L)	CTR (µg/L)	OP IMAX (µg/L)	Basin Plan
300	0.05	0.012	0.031 J	0.029 J	0.032 J	0.043 J	none	none	none	none
600			0.028 J	0.033 J	0.029 J	0.027 J				
900			0.034 J	0.032 J	0.034 J	0.031 J				

Notes:
 Analysis method: EPA Method 365.1
 RL = reporting limit; MDL = minimum detection level
 PRE = Pre-show stations; T+0 = during-show stations; T+30min = thirty minutes post-show stations; T+60min = sixty minutes post-show stations
 ft = feet; mg/L = milligrams per liter; J = Value is below the RL but above the MDL, reported value is estimated.
 Water Quality Standards: NTR = National Toxics Rule, Continuous Concentration Criteria for saltwater (2013); CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000);
 OP IMAX = California Ocean Plan, Objectives for Protection of Marine Life, Instantaneous Maximum (2009); Basin Plan = San Diego Basin Plan, Bays and Estuaries (2011)

Type	Analyte	Analysis Method	Unit	RL	MDL	CTR	BBBFS-1- PRE (0 ft)	BBBFS-1- POST (0 ft)	BBBFS-2- PRE (25 ft)	BBBFS-2- POST (25 ft)	BBBFS-3- PRE (50 ft)	BBBFS-3- POST (50 ft)
Metals	Arsenic, Total	EPA 1640	µg/L	0.03	0.0122	--	1.52	1.48	1.52	1.5	1.54	1.49
	Arsenic, Dissolved	EPA 1640				36	1.4	1.5	1.36	1.49	1.48	1.55
	Barium, Total	EPA 1640		0.1	0.0503	--	10.9	6.33	6.05	6.14	6.22	6.53
	Barium, Dissolved	EPA 1640		0.05	0.0252	--	7.12	6.34	6.08	6.19	6.13	6.35
	Cadmium, Total	EPA 1640		0.03	0.00567	--	0.0737	0.0838	0.0824	0.0828	0.0835	0.0864
	Cadmium, Dissolved	EPA 1640				9.3	0.0727	0.082	0.0798	0.0869	0.0868	0.0864
	Chromium, Total	EPA 1640		0.5	0.164	--	ND < 0.5	0.277 J	0.321 J	0.263 J	0.293 J	0.298 J
	Chromium, Dissolved	EPA 1640				50	0.695	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
	Cobalt, Total	EPA 1640		0.05	0.00486	--	0.0856 B	0.0792 B	0.0855 B	0.0777 B	0.0759 B	0.0961 B
	Cobalt, Dissolved	EPA 1640				--	0.0379 B,J	0.0337 B,J	0.0326 B,J	0.0346 B,J	0.0371 B,J	0.0452 B,J
	Copper, Total	EPA 1640		0.03	0.00898	--	2.72 B	3.74 B	3.51 B	3.45 B	3.23 B	3.87 B
	Copper, Dissolved	EPA 1640				3.1	1.95 B	2.67 B	2.45 B	2.52 B	2.48 B	2.67 B
	Lead, Total	EPA 1640		0.03	0.0135	--	0.292	0.342	0.373	0.319	0.327	0.397
	Lead, Dissolved	EPA 1640				8.1	0.044	0.0296 J	0.0231 J	0.0368	0.0247 J	0.0493
	Mercury, Total	EPA 7470A		0.05	0.0321	0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
	Mercury, Dissolved	EPA 7470A				--	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
	Molybdenum, Total	EPA 1640		0.05	0.0243	--	16.3	13.3	12.9	13.1	13.3	13.3
	Molybdenum, Dissolved	EPA 1640				--	16.7	13.3	12.4	12.4	13.3	12.2
	Nickel, Total	EPA 1640		0.05	0.00607	--	0.533	0.65	0.717	0.596	0.637	0.671
	Nickel, Dissolved	EPA 1640				8.2	0.381	0.645	0.52	0.537	0.59	0.655
	Potassium	EPA 6020		1000	74.4	--	239000	253000	439000	242000	261000	236000
	Potassium, Dissolved	EPA 6020				--	268000	279000	275000	269000	262000	264000
	Selenium, Total	EPA 1640		0.05	0.0121	--	0.0559	0.0615	0.0323 J	0.0494 J	0.0332 J	0.0717
	Selenium, Dissolved	EPA 1640				71	0.0742	0.0276 J	0.0213 J	0.0278 J	0.027 J	0.0296 J
	Silver, Total	EPA 1640		0.05	0.00822	--	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
	Silver, Dissolved	EPA 1640				--	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05	ND < 0.05
	Thallium, Total	EPA 1640		0.03	0.0087	--	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03
	Thallium, Dissolved	EPA 1640				--	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03	ND < 0.03
	Tin, Total	EPA 6020		10	1.72	--	2.37 J	ND < 10	ND < 10	ND < 10	3.02 J	ND < 10
	Tin, Dissolved	EPA 6020				--	3.32 J	3.4 J	2.11 J	2.36 J	ND < 10	ND < 10
	Titanium, Total	EPA 6020		10	1.32	--	5.98 J	7.71 J	4.27 J	4.56 J	8.88 J	1.96 J
	Titanium, Dissolved	EPA 6020				--	3.14 J	9.96 J	1.78 J	5.56 J	1.52 J	3.32 J
Vanadium, Total	EPA 1640	0.05	0.0332	--	2.12	2.63	2.69	2.69	2.68	2.71		
Vanadium, Dissolved	EPA 1640			--	4.37	2.41	2.4	2.45	2.48	2.41		
Zinc, Total	EPA 1640	1	0.147	--	9.55	8.76	8.89	7.5	8.18	10.1		
Zinc, Dissolved	EPA 1640	0.5	0.0736	81	5.15	6.6	7.02	6.71	8.33	8.14		
Nutrients	Perchlorate, Total	EPA 331.0 (M)	µg/L	10	0.29	--	ND < 10	ND < 10	ND < 10	0.99 J	ND < 10	1.4 J
	Phosphorus, Total	EPA 365.1		50	20	--	25 J	28 J	26 J	33 J	29 J	33 J
SVOC	Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	4.8	1.5	--	ND < 4.8	ND < 4.8	ND < 4.8	ND < 4.8	ND < 4.8	ND < 4.8

J = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated; B = Analyte was present in the associated method blank

RL = reporting limit; MDL = minimum detection level; ND = not detected above indicated concentration

PRE = Pre-show stations; POST = Post-show stations

µg/L = micrograms per liter

CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000); CTR for metals applies to dissolved fraction, except for mercury

Summary of 2015 Big Bay Boom Fireworks Water Quality Monitoring Analytes

Type	Analyte	Analysis Method	Unit	RL	MDL	CTR	BBBFS-1-PRE (0 ft)	BBBFS-1-POST (0 ft)	BBBFS-2-PRE (25 ft)	BBBFS-2-POST (25 ft)	BBBFS-3-PRE (50 ft)	BBBFS-3-POST (50 ft)
Metals	Arsenic, Total	EPA 1640	µg/L	0.03	0.0122	--	1.41	1.45	1.37	1.4	1.43	1.41
	Arsenic, Dissolved	EPA 1640				36	1.3	1.29	1.33	1.32	1.3	1.34
	Barium, Total	EPA 1640		0.05	0.0252	--	6.53	6.25	6.64	6.64	6.63	6.56
	Barium, Dissolved	EPA 1640				--	6.64	6.41	6.54	6.32	6.57	6.38
	Cadmium, Total	EPA 1640		0.03	0.00567	--	0.052	0.0473	0.0483	0.0446	0.0513	0.0454
	Cadmium, Dissolved	EPA 1640				9.3	0.0382	0.0287J	0.0358	0.0312	0.0328	0.0279J
	Chromium, Total	EPA 1640		0.5	0.164	--	0.421J	0.448J	0.501	0.467J	0.464J	0.488J
	Chromium, Dissolved	EPA 1640				50	0.283J	0.282J	0.322J	0.284J	0.294J	0.324J
	Cobalt, Total	EPA 1640		0.05	0.00486	--	0.0727	0.0694	0.0704	0.0672	0.0708	0.067
	Cobalt, Dissolved	EPA 1640				--	0.0438	0.0451J	0.0375J	0.0445J	0.0503	0.0338J
	Copper, Total	EPA 1640		0.03	0.00898	--	3.47	3.37	3.46	3.52	3.41	3.33
	Copper, Dissolved	EPA 1640				3.1	3.85	3.70	3.34	3.19	3.14	3.22
	Lead, Total	EPA 1640		0.03	0.0135	--	0.267	0.241	0.362	0.28	0.227	0.266
	Lead, Dissolved	EPA 1640				8.1	0.0392	0.0493	0.064	0.0224J	0.0255J	0.0173
	Mercury, Total	EPA 7470A		0.05	0.0321	0.05	0.0807	0.0607	0.0459J	0.0525	0.0420J	0.0456J
	Mercury, Dissolved	EPA 7470A				--	ND	ND	ND	ND	ND	ND
	Molybdenum, Total	EPA 1640		0.05	0.0243	--	12.6	12.1	13	12.5	12.8	12.6
	Molybdenum, Dissolved	EPA 1640				--	12.8	12.4	12.7	12.5	12.5	12.6
	Nickel, Total	EPA 1640		0.05	0.00607	--	0.662	0.643	0.61	0.562	0.66	0.591
	Nickel, Dissolved	EPA 1640				8.2	0.701	0.498	0.205	0.419	0.331	0.62
	Potassium, Total	EPA 6020		10000	744	--	352000	369000	354000	361000	367000	372000
	Potassium, Dissolved	EPA 6020				--	384000	376000	387000	358000	373000	363000
	Selenium, Total	EPA 1640		0.05	0.0121	--	0.0411J	0.0482J	0.0547	0.0463J	0.0463J	0.0421J
	Selenium, Dissolved	EPA 1640				71	0.0506	0.0504	0.0476J	0.0463J	0.0503	0.0506
	Silver, Total	EPA 1640		0.05	0.00822	--	ND	ND	ND	ND	ND	ND
	Silver, Dissolved	EPA 1640				--	ND	ND	ND	ND	ND	ND
	Thallium, Total	EPA 1640		0.03	0.0087	--	ND	ND	ND	ND	ND	ND
	Thallium, Dissolved	EPA 1640				--	ND	ND	ND	ND	ND	ND
	Tin, Total	EPA 6020		10	1.72	--	ND	ND	ND	ND	ND	ND
	Tin, Dissolved	EPA 6020				--	ND	ND	ND	ND	ND	ND
	Titanium, Total	EPA 6020		10	1.32	--	3.36J	5.30J	ND	4.94J	3.07J	6.49J
	Titanium, Dissolved	EPA 6020				--	6.06J	3.91J	7.75J	2.80J	4.03J	1.60J
Vanadium, Total	EPA 1640	0.05	0.0332	--	3.19	3.11	3.26	3.09	3.2	3.18		
Vanadium, Dissolved	EPA 1640			--	2.85	2.87	2.9	2.8	2.85	2.9		
Zinc, Total	EPA 1640	0.500	0.0736	--	7.72	9.32	8.18	8.87	10	7.53		
Zinc, Dissolved	EPA 1640			81	8.51	8.63	5.72	5.73	6.3	8.2		
Nutrients	Perchlorate, Total	EPA 331.0 (M)	µg/L	40	1.2	--	ND	ND	ND	ND	ND	ND
	Phosphorus, Total	EPA 365.1		50	20	--	28J	29J	30J	28J	30J	29J
SVOC	Bis(2-Ethylhexyl) Phthalate	EPA 8270C	µg/L	4.8	1.5	--	ND	ND	ND	ND	ND	ND

Notes:

J = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated

RL = reporting limit; MDL = minimum detection level; ND = not detected above indicated concentration

PRE = Pre-show stations; POST = Post-show stations

µg/L = micrograms per liter

CTR = California Toxics Rule, Continuous Concentration Criteria for saltwater (2000); CTR for metals applies to dissolved fraction, with the exception of mercury

red = surpasses CTR threshold

Summary of 2016 Big Bay Boom Chemistry Results

						North Embarcadero Fireworks Barge								South Embarcadero Fireworks Barge							
Type	Analyte	Units	MDL	Reporting Limit	CTR	BBBFS-NE-1- PRE (0 ft)	BBBFS-NE-1- POST (0 ft)	BBBFS-NE-1- POST-REP (0 ft)	BBBFS-NE-2- PRE (25 ft)	BBBFS-NE-2- POST (25 ft)	BBBFS-NE-3- PRE (50 ft)	BBBFS-NE-3- POST (50 ft)	BBBFS-NE-3- POST-REP (50 ft)	BBBFS-SE-1- PRE (0 ft)	BBBFS-SE-1- POST (0 ft)	BBBFS-SE-1- POST-REP (0 ft)	BBBFS-SE-2- PRE (25 ft)	BBBFS-SE-2- POST (25 ft)	BBBFS-SE-3- PRE (50 ft)	BBBFS-SE-3- POST (50 ft)	BBBFS-SE-3- POST-REP (50 ft)
Metals	Aluminum, Filtered	µg/L	0.227	1.00	36.0	2.57	3.13	2.52	2.41	3.14	3.38	3.49	3.12	2.54	3.88	3.51	2.42	2.9	2.39	2.8	2.4
	Aluminum, Total	µg/L	0.227	1.00		12.9	11.8	16.4	8.9	11.5	12.7	11	12.8	10.5	42.7	33.1	11.2	14.5	8.12	13	15.6
	Antimony, Filtered	µg/L	0.0154	0.050		0.137	0.133	0.134	0.143	0.132	0.135	0.138	0.128	0.138	0.135	0.144 B	0.147	0.129 B	0.147	0.153 B	0.167 B
	Antimony, Total	µg/L	0.0154	0.050		0.154	0.147	0.145	0.141	0.141	0.164	0.131	0.128	0.164	0.158	0.168	0.144	0.154	0.149	0.126	0.157
	Arsenic, Filtered	µg/L	0.0122	0.030		1.32	1.32	1.38	1.41	1.26	1.21	1.37	1.33	1.4	1.33	1.36	1.23	1.34	1.43	1.26	1.47
	Arsenic, Total	µg/L	0.0122	0.030		1.41	1.47	1.28	1.38	1.42	1.57	1.27	1.35	1.29	1.36	1.36	1.32	1.32	1.49	1.36	1.36
	Barium, Filtered	µg/L	0.0252	0.050		8.16	7.27	7.18	8.02	7.62	7.98	7.54	7.38	8.49	8.26	8.6	8.25	7.48	8.94	8.07	7.64
	Barium, Total	µg/L	0.0252	0.050		8.89	7.31	7.32	8.37	7.22	8.6	7.37	7.82	8.61	8.43	8.86	8.29	7.71	9.07	8.18	8.51
	Beryllium, Filtered	µg/L	0.0635	0.500		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Beryllium, Total	µg/L	0.0635	0.500		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium, Filtered	µg/L	0.00567	0.030	9.30	0.0766	0.0645	0.0597	0.0747	0.0653	0.0713	0.0647	0.0602	0.0741	0.0766	0.0778	0.0774	0.07	0.075	0.0712	0.0752
	Cadmium, Total	µg/L	0.00567	0.030		0.0768	0.0644	0.0618	0.0822	0.0619	0.0788	0.0691	0.0564	0.0776	0.0772	0.0776	0.0806	0.0744	0.0778	0.0765	0.0516
	Chromium, Filtered	µg/L	0.164	0.500	50.0	ND	0.221 J	0.191 J	ND	0.168 J	ND	ND	0.21 J	ND	0.202 J	0.169 J	ND	ND	ND	0.179 J	ND
	Chromium, Total	µg/L	0.164	0.500		0.19 J	0.222 J	0.28 J	0.194 J	0.201 J	0.183 J	0.24 J	0.199 J	0.204 J	0.299 J	0.347 J	ND	0.212 J	0.169 J	0.234 J	0.2 J
	Cobalt, Filtered	µg/L	0.00486	0.050		0.267 B	0.222 B	0.198 B	0.235 B	0.202 B	0.268 B	0.224 B	0.197 B	0.24 B	0.237 B	0.214 B	0.248 B	0.195 B	0.25 B	0.192 B	0.173 B
	Cobalt, Total	µg/L	0.00486	0.050		0.236 B	0.182 B	0.233 B	0.146 B	0.171 B	0.205 B	0.169 B	0.269 B	0.225 B	0.266 B	0.267 B	0.33 B	0.223 B	0.247 B	0.192 B	0.154 B
	Copper, Filtered	µg/L	0.00898	0.030	3.10	3.05	2.47	2.39	2.83	2.16	3.06	2.43	2.14	3.13	4.56	4.53	3.3	2.67	3.29	2.56	2.78
	Copper, Total	µg/L	0.00898	0.030		3.25	2.7	3.02	2.94	2.2	3.05	2.32	2.47	3.37	5.58	6.41	4.14	3.56	3.48	2.98	2.53
	Iron, Filtered	µg/L	0.0634	0.500		8.39	10.7	6.54	8.29	10.6	10.3	12	9.73	8.56	9.83	9.16	8.17	9.27	7.58	9.47	9.51
	Iron, Total	µg/L	0.0634	0.500		37.4	39.7	52.5	31.3	39.3	36.4	38.9	35	34.5	130	124	34.9	46.6	24.6	43.3	37.9
	Lead, Filtered	µg/L	0.0135	0.030	8.10	0.0455	0.0544	0.06	0.0511	0.0608	0.0514	0.0607	0.0764	0.0485	0.0694	0.114	0.0562	0.0712	0.0688	0.0819	0.075
	Lead, Total	µg/L	0.0135	0.030		0.119	0.108	0.124	0.153	0.132	0.129	0.13	0.118	0.12	0.175	0.182	0.095	0.134	0.145	0.157	0.0856
	Manganese, Filtered	µg/L	0.0336	1.00		6.9 B	3.29 B	3.21 B	6.1 B	3.17 B	6.44 B	3.57 B	3.56 B	8.02 B	6.1 B	6.75	7.98 B	4.82	8.31 B	4.82	4.64
	Manganese, Total	µg/L	0.0336	1.00		8.78 B	4.12 B	4.9 B	7.41 B	3.96 B	7.62 B	4.58 B	4.33 B	9.27 B	9.16 B	9.83 B	11 B	6.35 B	9.31 B	6.19	5.08
	Mercury, Filtered	mg/L	0.0000321	0.00005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Mercury, Total	mg/L	0.0000321	0.00005	0.0005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Molybdenum, Filtered	µg/L	0.0243	0.050		13.3	12.8	12.7	13.1	13.4	12.9	13.2	12.6	13.8	12.8	13.1	13.2	12.3	13.5	13.8	13.3
	Molybdenum, Total	µg/L	0.0243	0.050		13.1	12.3	12.5	13.2	12.9	13.8	12.8	12.9	12.7	12.4	12.3	12.7	12.1	12.6	12.1	14.4
	Nickel, Filtered	µg/L	0.00607	0.050	8.200	3.35 B	2.95 B	2.64 B	2.92 B	2.62 B	3.43 B	2.99 B	2.64 B	2.89 B	2.89 B	2.55 B	3.03 B	2.5 B	3.07 B	2.41 B	2.09 B
	Nickel, Total	µg/L	0.00607	0.050		2.65 B	2.3 B	3.08 B	1.41 B	2.03 B	2.28 B	1.95 B	3.63 B	2.58 B	2.81 B	2.84 B	5.26 B	2.6 B	2.87 B	2.12 B	1.86 B
	Potassium, Filtered	mg/L	0.0744	1.00		289	279	274	285	273	278	278	268	278	284	284	278	281	277	277	275
	Potassium, Total	mg/L	0.0744	1.00		288	281	277	270	277	281	275	272	276	287	280	276	279	274	281	325
	Selenium, Filtered	µg/L	0.0121	0.050	71.0	0.0215 B,J	0.0365 B,J	0.0229 B,J	0.0863 B	0.028 B,J	0.0351 B,J	0.0271 B,J	0.0235 B,J	0.0286 B,J	0.0257 B,J	0.0317 J	0.0314 B,J	0.0237 J	0.0406 B,J	0.0271 J	0.0377 J
	Selenium, Total	µg/L	0.0121	0.050		0.0311 J	0.027 J	0.0222 J	0.0419 J	0.0401 J	0.0397 J	0.0258 J	0.0428 J	0.0207 J	0.0391 J	0.0382 J	0.0404 J	0.0316 J	0.0295 J	0.0423 J	0.0345 J
	Silver, Filtered	µg/L	0.00822	0.050		0.0357 J	ND	ND	0.0176 J	0.0177 J	0.0146 J	ND	ND	0.027 J	ND	ND	ND	ND	0.0134 J	ND	ND
	Silver, Total	µg/L	0.00822	0.050		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0161 J	ND	ND	ND	ND	ND	ND
	Thallium, Filtered	µg/L	0.0087	0.030		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium, Total	µg/L	0.0087	0.030		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Tin, Filtered	mg/L	0.00172	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Tin, Total	mg/L	0.00172	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Titanium, Filtered	mg/L	0.00132	0.010		0.00784 J	0.00838 J	0.0064 J	0.0139	0.00701 J	0.00836 J	0.00756 J	0.00736 J	0.00889 J	0.0093 J	0.0108	0.00756 J	0.0109	0.0092 J	0.00457 J	0.00992 J	
Titanium, Total	mg/L	0.00132	0.010		0.00959 J	0.00556 J	0.00257 J	0.0173	0.00794 J	0.0063 J	0.00202 J	ND	0.00175 J	0.0105	0.00458 J	0.00309 J	0.00282 J	ND	0.0025 J	0.0216	
Vanadium, Filtered	µg/L	0.0332	0.050		3.04	2.9	2.87	2.92	2.91	3.11	3.04	2.88	3.12	3.07	3.06	3.09	2.93	3.17	2.93	2.88	
Vanadium, Total	µg/L	0.0332	0.050		3.24	2.89	3.22	2.62	2.79	3.08	2.7	3.07	3.28	3.56	3.66	4.05	3.29	3.08	3.08	2.65	
Zinc, Filtered	µg/L	0.0736	0.500	81.0	7.2	3.98	4.4	6.46	5.09	7.16	6.83	7.46	7.91	5.57	7.58	10	7.6	11.1	11.8	7.6	
Zinc, Total	µg/L	0.0736	0.500		9.17	4.41	5.22	7.57	5.37	7.78	6.27	7.19	8.48	6.89	8.54	12.3	8.51	12.8	12	6.63	
Nutrients	Perchlorate	µg/L	0.500	20.0		3.9 J	2.8 J	6.4 J	0.82 J	0.98 J	ND	2.3 J	5.6 J	0.87 J	5.6 J	4.8 J	0.71 J	0.56 J	ND	0.5 J	4.5 J
	Phosphorus, Total	mg/L	0.020	0.050		0.025 J	ND	0.058	ND	ND	0.027 J	ND	0.040 J	ND	0.030 J	0.05	ND	0.044 J	ND	0.023 J	0.057
SVOC	Bis(2-Ethylhexyl) Phthalate	µg/L	1.50	4.80		ND	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND	ND	ND*	ND	ND	ND	ND	ND

Notes:
SVOC - semivolatile organic compounds
B - Analyte was present in the associated method blank.
J - Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
* - the reporting limit for Bis(2-Ethylhexyl) Phthalate in these samples was 4.9 µg/L instead of 4.8 µg/L.
NA - not analyzed
MDL - minimum detection limit
µg/L - micrograms per liter
mg/L - milligrams per liter
CTR - California Toxics Rule, Continuous Concentration Criteria for saltwater (2000); CTR for metals applies to dissolved fraction, with the exception of mercury
red - surpasses CTR threshold

Appendix H
Noise Calculations

FIELD NOISE MEASUREMENT DATA

PROJECT: SD Fireworks PROJ. # 216-16

SITE IDENTIFICATION: Police Station LT-21 OBSERVER(S): JGM
 ADDRESS: 1401 Shelter Island Drive
 START DATE / TIME: 10:30am 7/3/16 END DATE / TIME: 12:30pm 7/6/16

METEOROLOGICAL CONDITIONS:
 TEMP: 69 °F HUMIDITY: 45 %R.H. towards WIND: CALM LIGHT MODERATE VARIABLE
 WINDSPEED: 5 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
 SKY: SUNNY CLEAR OVR CST PRTLY CLOUDY FOG RAIN OTHER: 0

ACOUSTIC MEASUREMENTS:
 INSTRUMENT: Rion NL-21 TYPE: 1 (2) SERIAL # 676771
 CALIBRATOR: LD200 SERIAL # 2916
 CALIBRATION CHECK, BEFORE: 113.4 AFTER 113.8 WINDSCREEN ✓
 SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER: _____

FILE / MEAS #	START TIME	END TIME	L											
			L _{eq}	max	1.67	8.33	10	25	50	90	min			

COMMENTS: Good / very high pitched Radar or bird deterrent

NOISE SOURCE INFO:
 PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: boats/jet skis/military
 ROADWAY TYPE: _____
 OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:
Ocean traffic / boats / police cars / beach goer traffic

DESCRIPTION / SKETCH:
 TERRAIN: HARD SOFT MIXED FLAT OTHER: _____
 PHOTOS: _____
 OTHER COMMENTS / SKETCH: _____



FIELD NOISE MEASUREMENT DATA

PROJECT: 8D Fireworks PROJ. # 216.16

SITE IDENTIFICATION: B Street Pier LT-2 OBSERVER(S): JGM
 ADDRESS: 1140 N. Harbor Drive
 START DATE / TIME: 11:34 am 7/3/16 END DATE / TIME: 11:55 am 7/6/13

METEROLOGICAL CONDITIONS:
 TEMP: 72 °F HUMIDITY: 45 %R.H. towards WIND: CALM LIGHT MODERATE VARIABLE
 WINDSPEED: 6 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
 SKY: SUNNY CLEAR OVCST PRTLY CLOUDY FOG RAIN OTHER:

start

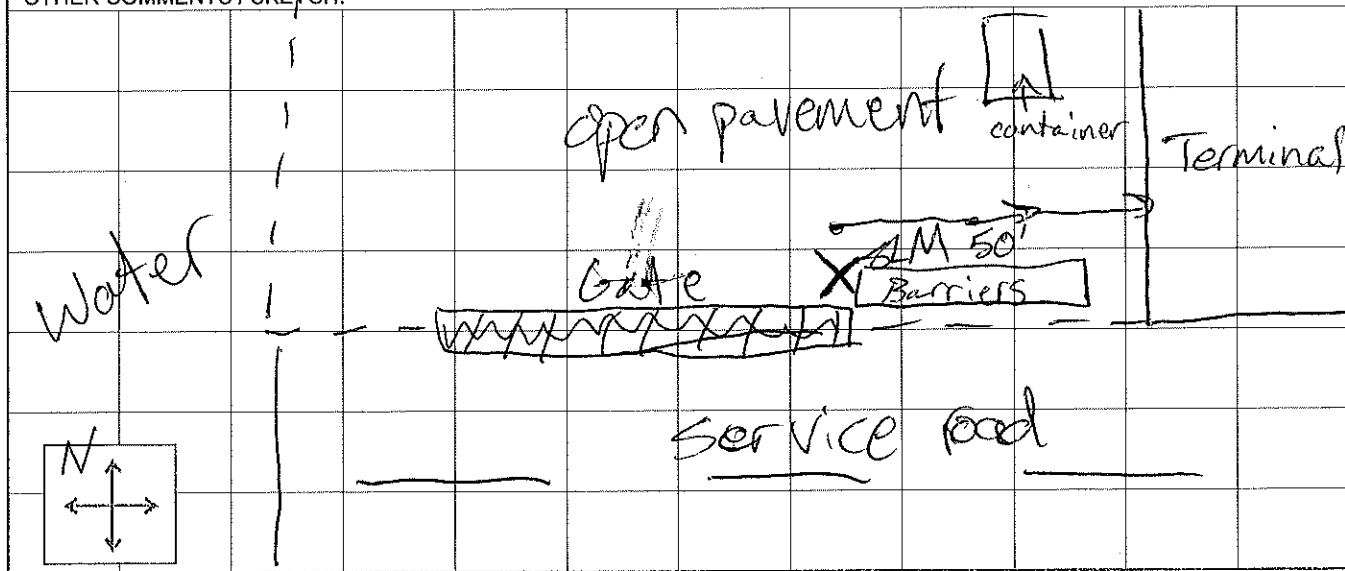
ACOUSTIC MEASUREMENTS:
 INSTRUMENT: Rion NL-21 TYPE: 172 SERIAL #: 77777
 CALIBRATOR: D200 SERIAL #: 7916
 CALIBRATION CHECK, BEFORE: 113.8 AFTER: 113.6 WINDSCREEN ✓
 SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

FILE / MEAS #	START TIME	END TIME	L _{eq}	max	1.67	8.33	10	L	25	50	90	min

COMMENTS: Fog heavy on pier. Didn't hear it but it may go off.

NOISE SOURCE INFO:
 PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: _____
 ROADWAY TYPE: _____
 OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:
jet skis, boats, military activity

DESCRIPTION / SKETCH:
 TERRAIN: HARD SOFT MIXED FLAT OTHER: _____
 PHOTOS: _____
 OTHER COMMENTS / SKETCH: _____



FIELD NOISE MEASUREMENT DATA

PROJECT: SD Fireworks PROJ. # 216.16

SITE IDENTIFICATION: Golf Course LT-3 OBSERVER(S): JGM
 ADDRESS: 2000 Visalia Row
 START DATE / TIME: 12:45pm 7/3/16 END DATE / TIME: 11:50am 7/6/16

METEROLOGICAL CONDITIONS:
 TEMP: 76 °F HUMIDITY: 45 %R.H. towards WIND: CALM MODERATE VARIABLE
 WINDSPEED: 3 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
 SKY: SUNNY CLEAR OVRCAST PRILY CLOUDY FOG RAIN OTHER:

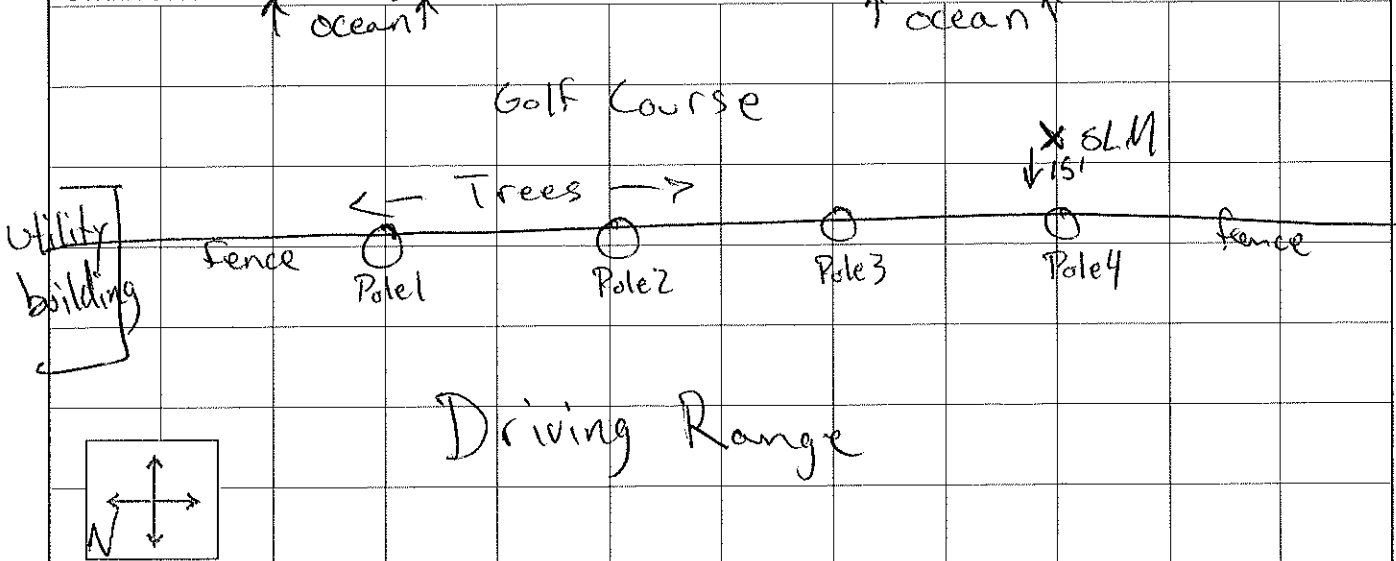
ACOUSTIC MEASUREMENTS:
 INSTRUMENT: Piccolo #5 TYPE: 1 SERIAL #: 50320016
 CALIBRATOR: LD200 SERIAL #: 6645 2916
 CALIBRATION CHECK, BEFORE: 94.0 AFTER 94.0 WINDSCREEN WIND
 SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

FILE / MEAS #	START TIME	END TIME	L											
			L _{eq}	max	1.67	8.33	10	25	50	90	min			

COMMENTS:

NOISE SOURCE INFO:
 PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER:
 ROADWAY TYPE:
 OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:
Ocean activity, boats, very close to military base. Golfers

DESCRIPTION / SKETCH:
 TERRAIN: HARD SOFT MIXED FLAT OTHER: mic height: 9'
 PHOTOS: 4 driving range poles in.
 OTHER COMMENTS / SKETCH:



FIELD NOISE MEASUREMENT DATA

PROJECT: FD Fireworks PROJ. # 216.16

SITE IDENTIFICATION: National City Swap Meet Area OBSERVER(S): JGM
 ADDRESS: 130 E 31st Street LT-4
 START DATE / TIME: 2:30pm 7/3/16 END DATE / TIME: 9:50am 7/6/16

METEROLOGICAL CONDITIONS:
 TEMP: 76 °F HUMIDITY: 48 %R.H. toward WIND: CALM LIGHT MODERATE VARIABLE
 WINDSPEED: 2-3 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
 SKY: SUNNY CLEAR OVRCAST PRTLY CLOUDY FOG RAIN OTHER: _____

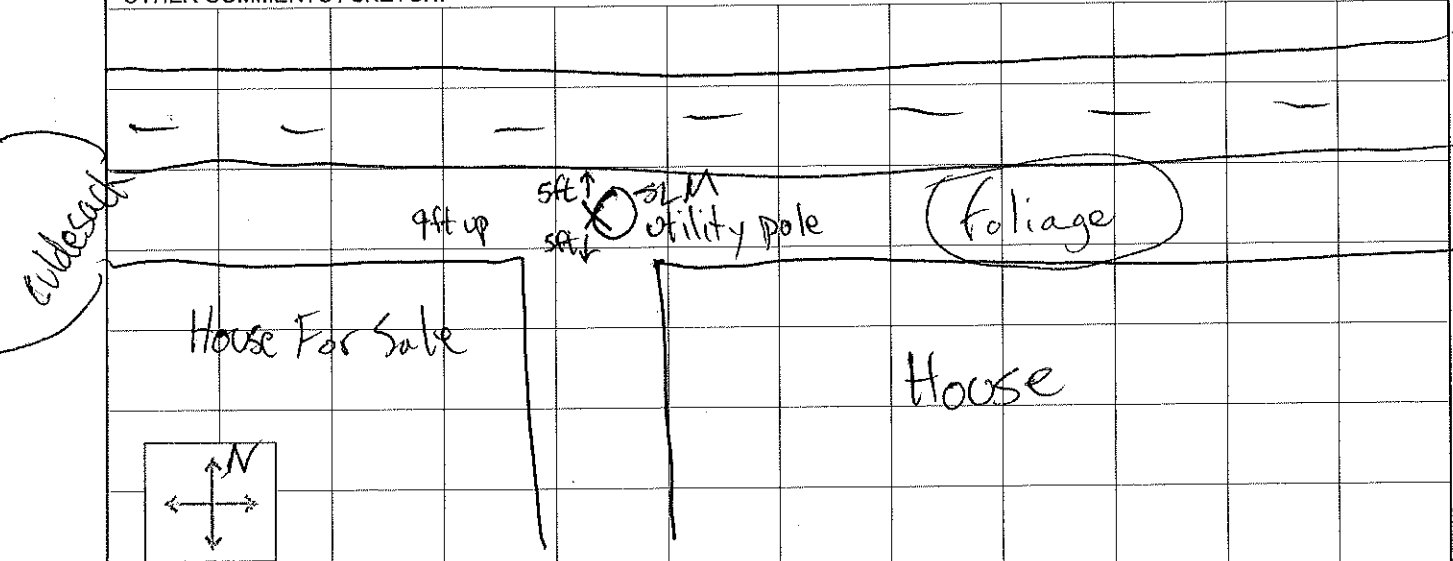
ACOUSTIC MEASUREMENTS:
 INSTRUMENT: Piccolo #4 TYPE: 1 (2) SERIAL #: 150320014
 CALIBRATOR: LD700 SERIAL #: 2916
 CALIBRATION CHECK, BEFORE: 94.0 AFTER 94.0 WINDSCREEN ✓
 SETTINGS: A-WEIGHTED SLOW (FAST) FRONTAL (RANDOM) (ANSI) OTHER: _____

FILE / MEAS #	START TIME	END TIME	L _{eq}	max	L							
					1.67	8.33	10	25	50	90	min	

COMMENTS:

NOISE SOURCE INFO:
 PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: _____
 ROADWAY TYPE: _____
 OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
 DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:
Distant traffic / occasional military helicopter
children playing in nearby pool.

DESCRIPTION / SKETCH:
 TERRAIN: HARD SOFT MIXED FLAT OTHER: _____
 PHOTOS: _____
 OTHER COMMENTS / SKETCH: _____



FIELD NOISE MEASUREMENT DATA

PROJECT: SD Fireworks PROJ. # 216.16

SITE IDENTIFICATION: Wildlife Conservation Chula Vista OBSERVER(S): JGM
 ADDRESS: LT-5 Mayra Meckel
 START DATE / TIME: 2:00pm 7/3/16 END DATE / TIME:

METEROLOGICAL CONDITIONS:
 TEMP: 77 °F HUMIDITY: 47 %R.H. toward WIND: CALM LIGHT MODERATE VARIABLE
 WINDSPEED: 6 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
 SKY: SUNNY CLEAR OVRCAST PRTLY CLOUDY FOG RAIN OTHER:

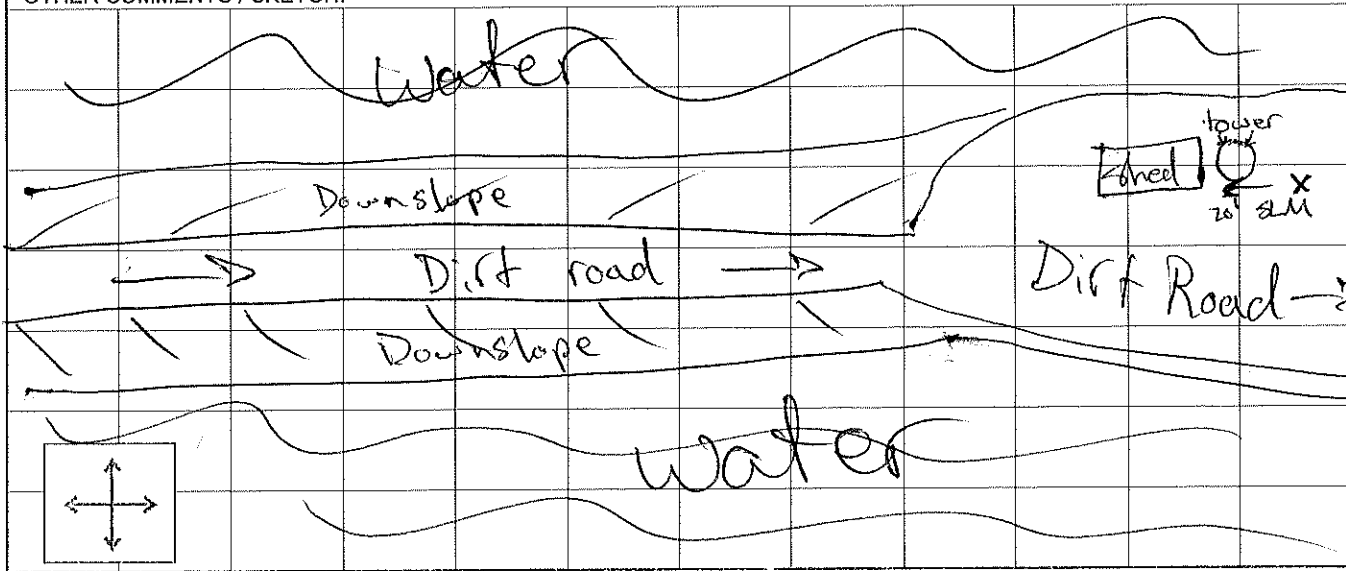
ACOUSTIC MEASUREMENTS:
 INSTRUMENT: NL-22 TYPE: 1 (2) SERIAL #: 773232
 CALIBRATOR: LD200 SERIAL #: 2916
 CALIBRATION CHECK, BEFORE: 113.8 AFTER 113.8 WINDSCREEN
 SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

FILE / MEAS #	START TIME	END TIME	L _{eq}	L									
				max	1.67	8.33	10	25	50	90	min		

COMMENTS:

NOISE SOURCE INFO:
 PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER:
 ROADWAY TYPE:
 OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:
Ocean / Distant traffic / military helicopters

DESCRIPTION / SKETCH:
 TERRAIN: HARD SOFT MIXED FLAT OTHER:
 PHOTOS:
 OTHER COMMENTS / SKETCH:



FIELD NOISE MEASUREMENT DATA

PROJECT: SD Fireworks PROJ. # 216.16

SITE IDENTIFICATION: Leeward Tower LT-6 OBSERVER(S): JGM
 ADDRESS: 950 Ocean Lane
 START DATE / TIME: 9:35am 7/3/16 END DATE / TIME: 10:10am 7/6/16

At Start

METEOROLOGICAL CONDITIONS:
 TEMP: 71 °F HUMIDITY: 45 %R.H. toward WIND: CALM LIGHT MODERATE VARIABLE
 WINDSPEED: 4-6 MPH DIR: N NE (E) SE S SW W NW STEADY GUSTY
 SKY: SUNNY CLEAR OVRCAST PRTLY CLOUDY FOG RAIN OTHER:

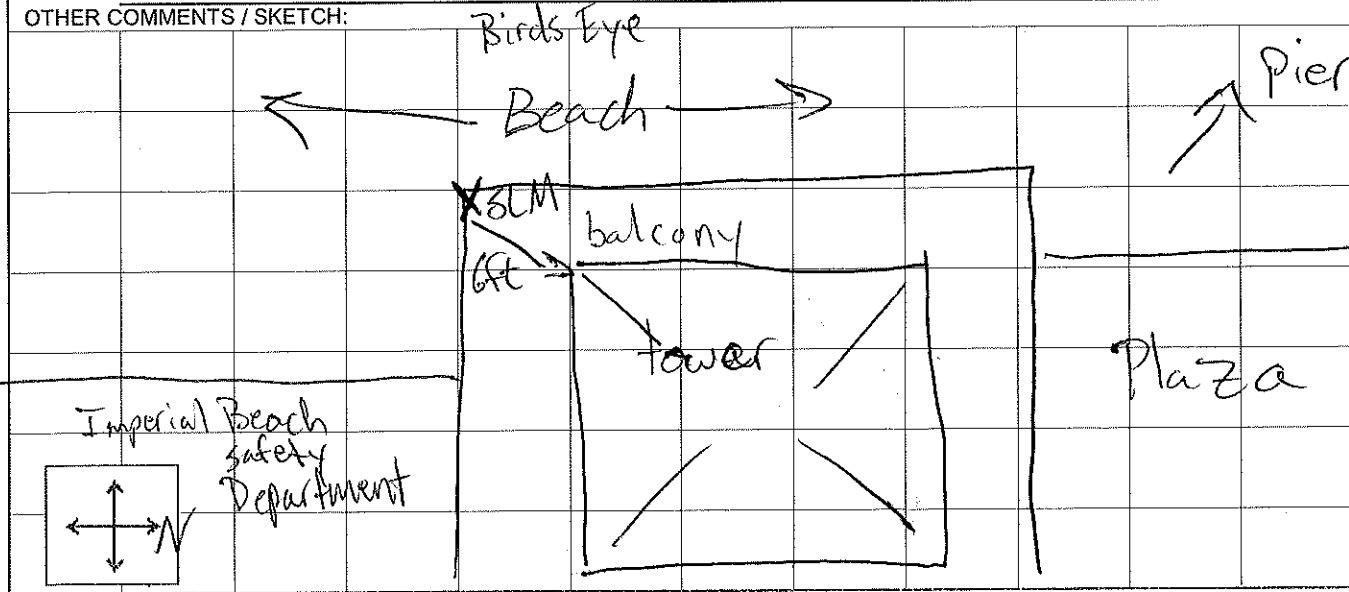
ACOUSTIC MEASUREMENTS:
 INSTRUMENT: LD LXT2 TYPE: (2) SERIAL #: 4264
 CALIBRATOR: LD200 SERIAL #: 6645-2916
 CALIBRATION CHECK, BEFORE: 113.95 AFTER: 113.97 WINDSCREEN
 SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM (ANSI) OTHER:

FILE / MEAS #	START TIME	END TIME	L											
			L _{eq}	max	1.67	8.33	10	25	50	90	min			

COMMENTS: Military activity out beyond the pier in the ocean

NOISE SOURCE INFO:
 PRIMARY NOISE SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER: Beach / waves / humans
 ROADWAY TYPE:
 OTHER SOURCES: DIST. AIRCRAFT / RUSTLING LEAVES / DIST. BARKING DOGS / BIRDS / DIST. INDUSTRIAL
DIST. CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING ACTIVITIES / OTHER:
Party w/ DJ on the 4th

DESCRIPTION SKETCH:
 TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
 PHOTOS:
 OTHER COMMENTS / SKETCH:



Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	10:00:00 AM															66.9	72.3	62.0	
7/3/2016	10:01:00 AM															66.0	71.4	61.5	
7/3/2016	10:02:00 AM															66.6	71.7	62.8	
7/3/2016	10:03:00 AM															66.9	72.1	61.7	
7/3/2016	10:04:00 AM															66.6	71.2	61.2	
7/3/2016	10:05:00 AM															66.6	70.3	62.2	
7/3/2016	10:06:00 AM															67.1	73.2	62.8	
7/3/2016	10:07:00 AM															66.7	71.2	62.9	
7/3/2016	10:08:00 AM															66.3	70.7	63.4	
7/3/2016	10:09:00 AM															66.6	70.0	62.9	
7/3/2016	10:10:00 AM															66.5	71.9	61.7	
7/3/2016	10:11:00 AM															66.6	71.6	62.2	
7/3/2016	10:12:00 AM															66.9	73.9	61.9	
7/3/2016	10:13:00 AM															66.7	72.6	61.8	
7/3/2016	10:14:00 AM															67.0	73.7	61.5	
7/3/2016	10:15:00 AM															66.6	71.7	61.4	
7/3/2016	10:16:00 AM															66.3	71.3	61.9	
7/3/2016	10:17:00 AM															67.1	72.2	62.4	
7/3/2016	10:18:00 AM															66.8	71.2	60.8	
7/3/2016	10:19:00 AM															67.0	73.6	61.6	
7/3/2016	10:20:00 AM															66.7	72.3	62.7	
7/3/2016	10:21:00 AM															66.2	72.1	59.8	
7/3/2016	10:22:00 AM															66.7	72.4	62.9	
7/3/2016	10:23:00 AM															66.7	72.9	62.0	
7/3/2016	10:24:00 AM															66.5	73.3	62.2	
7/3/2016	10:25:00 AM															66.9	72.6	62.6	
7/3/2016	10:26:00 AM															67.2	73.1	62.6	
7/3/2016	10:27:00 AM															66.8	71.0	62.4	
7/3/2016	10:28:00 AM															66.5	70.9	62.3	
7/3/2016	10:29:00 AM															66.4	70.3	63.0	
7/3/2016	10:30:00 AM															66.9	69.9	60.8	
7/3/2016	10:31:00 AM															66.9	70.8	61.0	
7/3/2016	10:32:00 AM															66.9	70.2	62.8	
7/3/2016	10:33:00 AM															67.0	73.5	63.1	
7/3/2016	10:34:00 AM															66.3	70.7	62.1	
7/3/2016	10:35:00 AM															67.2	71.9	61.7	
7/3/2016	10:36:00 AM															66.7	71.1	63.5	

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	10:37:00 AM															67.0	70.4	63.9	
7/3/2016	10:38:00 AM															66.4	70.2	63.3	
7/3/2016	10:39:00 AM															66.9	70.6	61.8	
7/3/2016	10:40:00 AM															67.3	71.1	64.8	
7/3/2016	10:41:00 AM															67.4	74.5	63.8	
7/3/2016	10:42:00 AM															67.0	75.6	61.2	
7/3/2016	10:43:00 AM															65.6	69.9	59.1	
7/3/2016	10:44:00 AM															66.6	71.2	62.1	
7/3/2016	10:45:00 AM															67.5	71.8	62.9	
7/3/2016	10:46:00 AM															67.3	72.1	63.2	
7/3/2016	10:47:00 AM															66.1	71.8	61.9	
7/3/2016	10:48:00 AM															66.2	71.2	62.0	
7/3/2016	10:49:00 AM															66.7	72.1	61.5	
7/3/2016	10:50:00 AM															66.8	71.1	63.3	
7/3/2016	10:51:00 AM															66.9	71.4	62.3	
7/3/2016	10:52:00 AM															67.3	71.9	63.4	
7/3/2016	10:53:00 AM															66.1	70.7	62.5	
7/3/2016	10:54:00 AM															66.0	71.4	62.2	
7/3/2016	10:55:00 AM															66.8	72.1	64.0	
7/3/2016	10:56:00 AM															67.0	76.1	62.9	
7/3/2016	10:57:00 AM															66.6	72.9	63.3	
7/3/2016	10:58:00 AM															66.9	69.7	62.6	
7/3/2016	10:59:00 AM															66.8	76.6	63.5	
7/3/2016	11:00:00 AM															66.4	73.8	62.3	
7/3/2016	11:01:00 AM															66.4	71.7	63.0	
7/3/2016	11:02:00 AM															66.1	75.8	61.4	
7/3/2016	11:03:00 AM															66.5	70.2	62.0	
7/3/2016	11:04:00 AM															66.7	72.0	63.0	
7/3/2016	11:05:00 AM															67.2	71.7	63.1	
7/3/2016	11:06:00 AM															66.3	70.3	63.3	
7/3/2016	11:07:00 AM															66.2	70.2	62.0	
7/3/2016	11:08:00 AM															66.9	74.9	63.5	
7/3/2016	11:09:00 AM															66.5	71.6	62.6	
7/3/2016	11:10:00 AM															66.8	71.6	60.3	
7/3/2016	11:11:00 AM															66.6	71.0	62.4	
7/3/2016	11:12:00 AM															66.0	70.9	60.4	
7/3/2016	11:13:00 AM															66.9	72.3	62.9	

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	11:14:00 AM															66.4	70.1	62.2	
7/3/2016	11:15:00 AM															66.3	70.9	61.9	
7/3/2016	11:16:00 AM															65.9	72.8	61.5	
7/3/2016	11:17:00 AM															65.9	69.5	61.4	
7/3/2016	11:18:00 AM															66.2	70.2	61.9	
7/3/2016	11:19:00 AM															65.9	69.3	62.0	
7/3/2016	11:20:00 AM															66.2	71.1	60.7	
7/3/2016	11:21:00 AM															65.4	70.3	59.5	
7/3/2016	11:22:00 AM															66.2	71.9	61.1	
7/3/2016	11:23:00 AM															66.2	69.9	62.3	
7/3/2016	11:24:00 AM															65.9	70.9	61.8	
7/3/2016	11:25:00 AM															65.9	70.9	61.5	
7/3/2016	11:26:00 AM															66.1	69.3	60.2	
7/3/2016	11:27:00 AM															66.3	69.5	62.9	
7/3/2016	11:28:00 AM															66.5	73.2	62.2	
7/3/2016	11:29:00 AM															66.5	77.4	61.8	
7/3/2016	11:30:00 AM															66.4	70.3	61.8	
7/3/2016	11:31:00 AM															66.2	72.0	62.0	
7/3/2016	11:32:00 AM															66.0	70.8	62.0	
7/3/2016	11:33:00 AM															66.5	72.0	62.6	
7/3/2016	11:34:00 AM															66.0	72.1	62.7	
7/3/2016	11:35:00 AM															66.7	74.9	63.0	
7/3/2016	11:36:00 AM															66.7	73.0	62.5	
7/3/2016	11:37:00 AM															66.8	73.8	62.7	
7/3/2016	11:38:00 AM															68.2	76.6	62.8	
7/3/2016	11:39:00 AM															66.7	72.0	62.1	
7/3/2016	11:40:00 AM															67.0	76.4	63.0	
7/3/2016	11:41:00 AM															65.5	70.4	61.6	
7/3/2016	11:42:00 AM															66.3	78.0	63.3	
7/3/2016	11:43:00 AM															67.4	83.8	62.6	
7/3/2016	11:44:00 AM															66.4	73.4	63.2	
7/3/2016	11:45:00 AM															66.6	71.0	63.7	
7/3/2016	11:46:00 AM															67.5	75.3	63.1	
7/3/2016	11:47:00 AM															67.2	77.7	63.7	
7/3/2016	11:48:00 AM															67.1	73.8	63.3	
7/3/2016	11:49:00 AM															66.8	70.4	63.5	
7/3/2016	11:50:00 AM															66.8	72.4	64.0	

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	11:51:00 AM															66.4	71.8	62.1	
7/3/2016	11:52:00 AM															66.5	72.5	62.3	
7/3/2016	11:53:00 AM															67.0	72.1	63.3	
7/3/2016	11:54:00 AM															67.1	73.0	62.5	
7/3/2016	11:55:00 AM															66.9	74.6	63.5	
7/3/2016	11:56:00 AM															67.6	77.1	64.3	
7/3/2016	11:57:00 AM															67.1	74.5	63.9	
7/3/2016	11:58:00 AM															67.4	77.2	63.4	
7/3/2016	11:59:00 AM															66.9	74.2	63.7	
7/3/2016	12:00:00 PM	53.3	71.3	43.2	54.8	58.0	52.3									66.6	72.6	62.3	
7/3/2016	12:01:00 PM	51.8	70.7	44.8	53.5	60.7	51.2									67.1	72.4	62.8	
7/3/2016	12:02:00 PM	52.9	65.2	46.1	57.9	68.8	53.0									67.0	71.4	62.2	
7/3/2016	12:03:00 PM	45.9	50.3	42.8	57.5	63.6	54.0									66.7	72.3	63.0	
7/3/2016	12:04:00 PM	48.3	55.0	44.4	55.9	60.7	53.0									66.8	75.8	62.2	
7/3/2016	12:05:00 PM	49.4	58.1	43.2	61.4	68.9	53.4									67.1	72.8	62.9	
7/3/2016	12:06:00 PM	49.4	56.6	42.6	62.4	68.3	56.3									66.3	71.4	63.5	
7/3/2016	12:07:00 PM	48.5	57.6	42.6	58.9	63.2	54.1									66.6	72.6	63.3	
7/3/2016	12:08:00 PM	53.8	56.3	52.3	58.9	62.7	55.9									66.3	69.5	62.0	
7/3/2016	12:09:00 PM	54.4	60.1	52.3	56.9	64.3	52.9									66.4	70.4	62.5	
7/3/2016	12:10:00 PM	54.4	60.9	51.9	52.4	61.7	49.3									66.2	71.2	63.0	
7/3/2016	12:11:00 PM	56.5	67.5	44.3	57.8	71.3	49.2									66.1	71.4	62.4	
7/3/2016	12:12:00 PM	46.0	52.3	42.0	61.3	72.4	49.8									66.9	73.2	63.4	
7/3/2016	12:13:00 PM	47.4	54.4	43.4	58.0	68.2	49.1									66.7	70.9	63.2	
7/3/2016	12:14:00 PM	48.1	57.2	43.7	53.2	58.8	50.3									66.8	73.5	63.1	
7/3/2016	12:15:00 PM	49.1	59.2	44.9	53.0	58.0	50.2									66.4	69.9	62.8	
7/3/2016	12:16:00 PM	47.7	60.7	43.4	62.5	68.2	52.5									65.9	70.2	62.0	
7/3/2016	12:17:00 PM	50.4	62.1	45.2	57.5	68.9	50.5									67.0	77.0	62.5	
7/3/2016	12:18:00 PM	46.9	57.2	43.5	59.9	67.2	51.0									66.6	75.0	62.8	
7/3/2016	12:19:00 PM	47.1	50.3	44.0	56.1	63.4	52.4									66.1	74.4	61.6	
7/3/2016	12:20:00 PM	51.6	58.3	45.2	58.0	68.4	53.0									67.3	72.5	64.4	
7/3/2016	12:21:00 PM	53.7	55.4	52.4	54.0	59.7	51.7									67.0	74.8	63.6	
7/3/2016	12:22:00 PM	54.4	59.6	52.4	55.4	59.2	52.1									66.0	71.3	62.6	
7/3/2016	12:23:00 PM	53.1	55.9	52.1	60.8	67.3	51.9									66.1	74.4	62.8	
7/3/2016	12:24:00 PM	52.2	56.4	44.0	60.5	69.2	53.9									66.4	72.0	63.1	
7/3/2016	12:25:00 PM	47.4	56.0	43.6	60.6	66.8	56.4									66.6	72.1	62.8	
7/3/2016	12:26:00 PM	46.3	51.1	44.1	59.1	64.9	55.9									67.1	78.7	63.2	
7/3/2016	12:27:00 PM	49.7	57.0	44.5	59.0	65.4	54.8									66.7	71.7	63.1	

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	12:28:00 PM	46.8	51.0	44.5	58.7	62.8	55.6									66.7	76.5	63.6	
7/3/2016	12:29:00 PM	49.3	65.4	46.0	57.8	65.6	51.9									66.7	74.7	63.6	
7/3/2016	12:30:00 PM	48.7	53.4	44.0	55.6	65.2	50.9									66.5	72.3	62.9	
7/3/2016	12:31:00 PM	47.2	52.5	44.0	55.7	62.2	51.9									66.6	72.5	61.7	
7/3/2016	12:32:00 PM	48.2	54.6	45.6	62.7	73.2	55.8									66.7	73.2	63.1	
7/3/2016	12:33:00 PM	49.1	58.4	44.9	62.5	70.0	56.2									66.2	71.0	62.3	
7/3/2016	12:34:00 PM	53.5	57.7	52.1	60.0	65.3	55.7									66.6	70.1	63.8	
7/3/2016	12:35:00 PM	53.2	55.6	52.0	63.0	70.5	56.6									66.8	71.6	63.6	
7/3/2016	12:36:00 PM	53.1	58.4	52.2	58.9	63.2	55.7									66.4	70.9	63.5	
7/3/2016	12:37:00 PM	52.7	55.1	47.9	65.4	70.8	58.6									66.1	71.9	61.6	
7/3/2016	12:38:00 PM	48.1	54.1	44.6	63.0	67.3	56.7									66.8	73.3	62.9	
7/3/2016	12:39:00 PM	50.6	60.5	44.8	61.5	68.5	56.9									67.5	72.7	63.6	
7/3/2016	12:40:00 PM	48.3	51.7	45.6	59.0	64.7	55.9									66.4	70.5	63.3	
7/3/2016	12:41:00 PM	50.6	56.5	46.3	60.0	66.4	55.5									66.6	75.5	62.7	
7/3/2016	12:42:00 PM	47.1	54.8	43.5	60.3	70.3	55.6									66.4	71.8	62.8	
7/3/2016	12:43:00 PM	49.4	55.1	45.9	62.2	68.1	57.8									66.5	72.3	63.2	
7/3/2016	12:44:00 PM	51.6	63.7	45.8	60.3	66.3	55.7									66.6	75.5	63.5	
7/3/2016	12:45:00 PM	52.8	59.1	46.7	58.1	61.3	55.4									67.1	70.8	63.2	
7/3/2016	12:46:00 PM	55.8	73.3	46.6	60.1	65.2	56.4									66.8	76.9	63.5	
7/3/2016	12:47:00 PM	56.5	64.4	53.1	59.6	65.7	56.0									67.5	78.0	63.3	
7/3/2016	12:48:00 PM	53.4	57.8	52.1	57.9	72.5	53.6									66.1	72.7	62.6	
7/3/2016	12:49:00 PM	53.0	64.0	51.5	61.3	71.9	55.5									66.3	70.2	63.6	
7/3/2016	12:50:00 PM	60.2	69.7	51.9	68.4	77.0	58.6									66.1	70.4	63.7	
7/3/2016	12:51:00 PM	50.4	58.1	43.6	62.2	72.8	57.0									66.6	71.9	62.8	
7/3/2016	12:52:00 PM	46.6	60.0	42.9	65.8	72.9	57.6									66.1	72.4	63.8	
7/3/2016	12:53:00 PM	50.6	61.0	45.3	67.7	73.9	52.8									66.2	69.5	63.0	
7/3/2016	12:54:00 PM	48.9	54.4	45.3	54.1	59.1	51.0									66.1	71.7	63.0	
7/3/2016	12:55:00 PM	51.5	61.2	45.6	53.4	58.4	50.4									66.2	70.4	63.2	
7/3/2016	12:56:00 PM	51.6	61.5	45.7	53.5	57.5	49.8									66.7	70.5	63.7	
7/3/2016	12:57:00 PM	49.5	53.6	45.9	63.4	70.0	53.9									66.8	71.4	63.8	
7/3/2016	12:58:00 PM	49.1	53.0	46.2	65.3	69.1	58.6									66.3	73.8	63.1	
7/3/2016	12:59:00 PM	50.6	58.0	45.7	58.2	67.4	51.0									66.3	72.7	63.4	
7/3/2016	1:00:00 PM	54.1	56.5	52.6	53.1	57.0	50.8	51.3	56.8	-						67.0	71.5	63.0	
7/3/2016	1:01:00 PM	55.4	58.2	53.6	55.0	59.7	52.0	59.0	70.1	-						66.8	78.7	63.5	
7/3/2016	1:02:00 PM	54.4	56.3	53.2	56.0	63.6	52.1	51.1	60.1	-						66.2	70.9	62.9	
7/3/2016	1:03:00 PM	54.1	55.0	53.3	57.3	60.7	54.7	52.5	61.7	-						67.1	74.1	63.6	
7/3/2016	1:04:00 PM	51.1	58.4	47.2	56.5	60.6	53.7	50.3	55.4	-						67.4	74.6	64.5	

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	1:05:00 PM	49.7	53.8	46.6	55.0	60.8	51.0	51.2	58.0	-						66.6	72.4	63.2	
7/3/2016	1:06:00 PM	48.6	53.0	44.3	55.0	60.6	50.9	52.0	58.5	-						66.8	74.1	62.9	
7/3/2016	1:07:00 PM	50.1	59.7	44.7	52.9	57.0	50.0	53.6	58.0	-						66.7	74.4	63.6	
7/3/2016	1:08:00 PM	49.6	58.4	44.9	54.3	57.7	51.9	52.8	57.2	-						67.6	77.1	63.9	
7/3/2016	1:09:00 PM	49.8	62.1	46.6	53.5	55.7	51.3	52.7	61.7	-						67.9	77.3	64.6	
7/3/2016	1:10:00 PM	49.1	55.3	45.6	56.1	62.6	51.6	51.7	58.3	-						66.4	72.8	63.3	
7/3/2016	1:11:00 PM	48.0	53.7	45.3	57.4	69.1	50.7	55.7	62.2	-						67.7	75.2	63.0	
7/3/2016	1:12:00 PM	52.9	58.0	46.3	56.4	62.0	52.8	54.8	60.9	-						69.7	78.4	63.9	
7/3/2016	1:13:00 PM	55.0	56.6	53.5	56.3	60.3	53.2	53.7	63.2	-						66.5	72.7	63.3	
7/3/2016	1:14:00 PM	55.4	60.1	53.5	55.1	60.3	51.5	53.3	62.6	-						66.7	71.2	64.0	
7/3/2016	1:15:00 PM	54.7	59.0	53.1	57.1	64.3	52.4	53.1	58.0	-						66.7	72.2	63.5	
7/3/2016	1:16:00 PM	55.4	58.4	52.3	59.3	63.3	55.2	51.0	55.2	-						66.4	73.1	62.5	
7/3/2016	1:17:00 PM	52.9	59.0	48.1	55.2	60.2	51.5	56.0	64.4	-						66.0	71.7	62.9	
7/3/2016	1:18:00 PM	53.5	61.5	47.0	55.6	59.1	52.1	51.8	61.3	-						66.8	76.0	62.9	
7/3/2016	1:19:00 PM	50.8	56.5	47.9	55.7	59.8	52.1	53.3	66.1	-						67.1	72.0	64.3	
7/3/2016	1:20:00 PM	56.1	66.0	49.0	55.3	60.3	52.1	53.2	59.0	-						66.2	70.7	62.8	
7/3/2016	1:21:00 PM	50.7	63.3	47.2	57.1	64.5	53.6	53.8	60.2	-						66.0	75.2	63.0	
7/3/2016	1:22:00 PM	50.0	53.4	47.5	55.9	61.0	52.9	53.0	59.6	-						65.9	71.5	63.6	
7/3/2016	1:23:00 PM	50.8	57.0	46.7	55.8	58.9	52.5	50.4	61.4	-						65.7	70.0	62.8	
7/3/2016	1:24:00 PM	48.1	53.9	45.6	58.8	62.3	54.6	51.1	60.5	-						66.2	70.6	63.6	
7/3/2016	1:25:00 PM	54.4	58.6	45.6	57.1	60.7	53.2	52.0	59.0	-						66.0	72.1	63.3	
7/3/2016	1:26:00 PM	54.8	57.6	53.1	55.5	58.9	52.4	52.4	59.6	-						66.0	71.3	63.1	
7/3/2016	1:27:00 PM	53.5	57.2	52.2	56.7	62.2	53.5	52.8	60.3	-						66.5	69.4	63.6	
7/3/2016	1:28:00 PM	54.2	58.6	52.6	56.4	59.2	53.1	52.0	58.6	-						65.6	69.4	62.3	
7/3/2016	1:29:00 PM	54.0	59.5	48.5	55.2	59.6	52.1	51.4	55.2	-						66.1	72.9	63.3	
7/3/2016	1:30:00 PM	51.3	59.6	45.9	55.8	61.0	52.3	53.3	60.5	-						65.5	69.0	63.4	
7/3/2016	1:31:00 PM	49.8	55.6	45.4	55.6	59.0	51.6	57.5	66.3	-						65.5	70.7	63.1	
7/3/2016	1:32:00 PM	51.3	55.7	47.2	58.9	64.9	53.8	57.5	64.8	-						66.0	72.4	63.2	
7/3/2016	1:33:00 PM	49.4	57.7	46.4	57.4	64.0	52.9	56.7	65.9	-						66.4	71.3	63.9	
7/3/2016	1:34:00 PM	52.0	56.8	47.2	57.4	65.6	52.0	53.1	61.8	-						66.6	72.1	62.7	
7/3/2016	1:35:00 PM	52.3	61.1	47.5	64.2	71.1	52.9	52.5	58.5	-						66.2	70.8	63.2	
7/3/2016	1:36:00 PM	48.7	53.9	44.4	64.4	73.5	56.6	52.0	56.2	-						65.5	70.6	63.2	
7/3/2016	1:37:00 PM	50.5	58.2	46.0	64.7	71.5	57.5	52.0	56.7	-						65.6	70.7	63.1	
7/3/2016	1:38:00 PM	53.9	58.6	52.7	58.6	63.1	54.9	53.5	64.6	-						66.5	69.5	63.7	
7/3/2016	1:39:00 PM	53.5	56.1	52.3	57.2	61.0	52.1	54.5	62.3	-						65.4	69.4	62.7	
7/3/2016	1:40:00 PM	54.5	63.2	52.3	56.1	58.9	53.1	53.1	60.3	-						66.4	72.2	62.7	
7/3/2016	1:41:00 PM	54.5	62.0	52.3	57.7	60.9	54.3	54.8	62.8	-						65.9	69.4	63.5	

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	1:42:00 PM	52.2	72.7	45.4	57.4	64.5	54.1	53.9	61.1	-							66.0	70.2	61.9
7/3/2016	1:43:00 PM	51.4	58.0	45.6	58.1	63.6	55.1	50.8	57.2	-							65.6	73.7	63.2
7/3/2016	1:44:00 PM	50.1	55.3	46.7	57.1	66.2	52.0	51.0	57.9	-							66.0	71.1	61.3
7/3/2016	1:45:00 PM	51.0	58.4	48.0	57.8	61.5	55.2	53.1	59.0	-							66.1	73.9	63.1
7/3/2016	1:46:00 PM	49.5	56.1	46.2	57.2	61.3	52.8	51.6	57.2	-							66.7	69.8	63.0
7/3/2016	1:47:00 PM	51.4	55.4	46.8	57.1	62.3	53.1	53.9	61.7	-							65.4	71.0	62.2
7/3/2016	1:48:00 PM	49.4	53.9	45.6	57.9	65.1	52.4	49.7	54.3	-							66.2	71.8	63.2
7/3/2016	1:49:00 PM	49.6	54.7	46.1	57.2	68.1	52.8	50.6	55.4	-							66.2	70.8	63.0
7/3/2016	1:50:00 PM	55.0	64.2	45.4	60.1	66.1	55.6	51.2	56.9	-							65.7	70.8	63.3
7/3/2016	1:51:00 PM	54.0	56.8	52.1	56.0	59.3	53.4	51.0	53.9	-							66.0	71.7	62.5
7/3/2016	1:52:00 PM	53.0	55.5	51.8	56.9	67.8	53.0	53.5	62.0	-							66.2	73.2	63.4
7/3/2016	1:53:00 PM	54.9	59.8	52.8	58.2	63.3	53.6	55.4	64.0	-							65.8	69.4	62.6
7/3/2016	1:54:00 PM	54.4	62.6	52.3	55.9	61.6	52.2	51.6	54.3	-							66.1	68.5	63.9
7/3/2016	1:55:00 PM	55.7	58.9	53.3	55.1	59.1	52.9	54.0	61.0	-							65.7	71.8	63.4
7/3/2016	1:56:00 PM	53.9	56.8	51.9	56.4	59.5	53.3	52.6	58.4	-							66.0	70.9	63.2
7/3/2016	1:57:00 PM	62.3	81.7	51.8	57.4	65.3	53.8	53.2	57.7	-							66.3	73.8	63.3
7/3/2016	1:58:00 PM	53.5	59.3	45.9	57.9	65.1	53.8	53.3	58.7	-							66.4	71.7	63.2
7/3/2016	1:59:00 PM	48.7	57.4	44.5	57.7	61.4	54.8	53.6	58.5	-							66.1	72.0	63.6
7/3/2016	2:00:00 PM	50.1	55.3	47.2	56.3	59.8	53.7	54.6	64.9	-			43.6	49.2	41.4		66.6	71.9	63.9
7/3/2016	2:01:00 PM	50.5	58.4	45.4	58.5	64.0	55.1	52.4	58.2	-			45.3	49.9	42.0		66.5	74.2	62.5
7/3/2016	2:02:00 PM	47.6	52.2	44.7	57.2	60.8	54.2	51.7	59.3	-			43.6	47.8	41.1		66.5	71.7	62.9
7/3/2016	2:03:00 PM	47.9	52.4	43.9	59.3	67.8	54.4	54.5	63.9	-			42.8	46.1	40.9		66.3	71.5	62.9
7/3/2016	2:04:00 PM	49.1	57.7	43.8	56.8	61.9	52.5	51.2	58.2	-			47.9	55.3	42.0		66.0	72.8	63.7
7/3/2016	2:05:00 PM	54.3	61.2	52.6	55.2	57.4	52.7	51.6	56.0	-			43.7	45.9	41.7		67.5	73.6	64.2
7/3/2016	2:06:00 PM	57.2	76.4	52.7	56.8	65.4	52.6	53.0	58.6	-			44.6	49.4	41.9		66.3	74.0	63.2
7/3/2016	2:07:00 PM	53.8	55.4	52.7	56.5	60.5	52.9	53.8	61.6	-			44.1	50.6	40.9		66.4	71.1	64.3
7/3/2016	2:08:00 PM	52.9	54.2	51.8	55.9	65.5	53.0	53.6	60.5	-			42.6	44.6	40.7		66.5	72.9	63.6
7/3/2016	2:09:00 PM	52.7	54.9	51.4	55.6	58.4	52.7	54.3	58.8	-			43.2	51.1	41.2		67.2	73.2	63.8
7/3/2016	2:10:00 PM	48.5	55.2	44.5	56.5	59.2	53.9	53.2	60.0	-			43.0	46.0	40.8		65.7	70.3	62.7
7/3/2016	2:11:00 PM	48.1	56.1	43.3	60.4	65.4	56.7	51.3	59.7	-			43.0	47.5	40.7		66.7	71.3	63.7
7/3/2016	2:12:00 PM	51.0	60.1	44.8	58.3	62.9	55.1	53.5	58.2	-			43.5	50.4	40.9		65.7	70.2	63.1
7/3/2016	2:13:00 PM	51.4	59.0	44.7	59.8	66.4	55.0	56.5	62.6	-			43.0	47.2	41.2		66.5	73.4	64.0
7/3/2016	2:14:00 PM	56.1	68.1	49.2	56.4	59.6	51.8	53.1	58.2	-			43.8	46.2	41.8		66.3	72.0	63.2
7/3/2016	2:15:00 PM	53.7	56.5	52.1	54.3	57.1	51.3	51.6	56.8	-			45.0	49.2	42.0		65.9	73.0	62.2
7/3/2016	2:16:00 PM	62.5	75.0	52.6	55.6	61.5	52.2	53.7	58.0	-			45.3	51.7	42.2		66.4	76.2	62.5
7/3/2016	2:17:00 PM	56.2	66.2	52.5	71.6	77.7	58.8	53.4	63.7	-			48.7	54.6	43.4		66.7	74.7	63.4
7/3/2016	2:18:00 PM	53.3	54.9	52.5	64.0	69.2	59.3	52.9	60.3	-			46.0	51.3	43.4		66.6	71.9	63.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	2:19:00 PM	54.5	60.8	52.8	58.1	64.7	54.6	53.3	59.3	-				45.1	48.3	42.4	66.4	72.0	63.5
7/3/2016	2:20:00 PM	55.0	66.5	52.3	57.1	66.7	52.5	54.2	60.6	-				43.8	46.5	42.0	65.9	71.7	63.1
7/3/2016	2:21:00 PM	54.4	66.4	52.7	63.8	74.8	54.7	53.6	59.2	-				43.8	46.7	41.9	66.2	72.8	63.5
7/3/2016	2:22:00 PM	54.6	62.4	52.8	57.5	62.9	54.4	54.5	63.3	-				44.3	47.2	41.8	66.9	77.3	63.7
7/3/2016	2:23:00 PM	53.6	56.5	52.2	58.3	65.1	52.8	53.4	60.5	-				45.5	48.6	43.2	67.0	76.3	64.0
7/3/2016	2:24:00 PM	54.1	58.8	52.5	57.4	65.6	53.5	55.1	66.0	-				45.2	48.9	42.6	66.2	76.7	63.2
7/3/2016	2:25:00 PM	54.2	58.4	53.0	56.8	63.6	53.6	51.4	57.4	-				44.0	46.1	41.9	66.9	73.4	64.0
7/3/2016	2:26:00 PM	54.6	60.2	53.0	66.9	76.6	54.6	53.8	60.5	-				43.3	45.8	41.4	65.9	70.7	63.3
7/3/2016	2:27:00 PM	54.3	56.6	52.8	55.5	58.5	52.4	52.2	58.1	-				43.2	45.6	41.2	66.3	72.5	63.5
7/3/2016	2:28:00 PM	54.1	56.7	52.7	57.0	62.7	52.2	51.4	58.1	-				43.2	46.1	41.2	66.1	71.4	63.3
7/3/2016	2:29:00 PM	54.5	61.8	52.3	56.8	64.0	51.5	52.6	58.9	-				42.8	44.9	41.2	66.6	73.9	64.0
7/3/2016	2:30:00 PM	54.2	56.3	53.1	55.4	59.3	51.4	55.4	67.3	-				56.4	77.3	41.4	66.5	72.0	64.0
7/3/2016	2:31:00 PM	57.7	75.6	52.9	56.5	60.9	52.6	51.6	57.4	-				54.8	74.5	41.2	66.0	69.8	63.2
7/3/2016	2:32:00 PM	54.2	62.6	52.0	62.5	67.5	56.2	53.5	61.4	-				43.0	48.3	40.7	66.7	75.1	63.8
7/3/2016	2:33:00 PM	53.6	60.1	52.3	63.9	86.8	54.8	54.9	59.7	-				42.5	44.3	41.1	66.0	71.2	62.7
7/3/2016	2:34:00 PM	63.2	84.6	53.4	59.7	69.6	54.9	52.0	57.1	-				46.3	50.8	40.9	67.5	74.0	64.2
7/3/2016	2:35:00 PM	59.4	78.0	52.1	59.0	66.8	53.9	52.0	56.3	-				43.5	50.0	40.5	67.0	75.0	63.3
7/3/2016	2:36:00 PM	57.7	70.8	52.1	57.9	62.9	54.9	55.0	64.5	-				43.1	44.9	41.1	66.5	74.1	63.4
7/3/2016	2:37:00 PM	53.8	57.5	51.7	60.3	70.3	55.7	52.3	55.7	-				44.5	50.1	41.7	66.7	72.0	63.8
7/3/2016	2:38:00 PM	53.8	59.4	51.8	58.9	63.7	55.1	52.9	57.9	-				48.5	52.6	43.1	67.0	75.7	64.1
7/3/2016	2:39:00 PM	55.2	73.8	51.8	61.3	66.9	55.4	54.0	61.6	-				46.5	54.1	41.2	67.9	77.6	64.1
7/3/2016	2:40:00 PM	53.4	57.2	51.9	60.2	63.9	56.9	55.0	60.3	-				43.3	48.6	41.1	67.1	75.5	63.7
7/3/2016	2:41:00 PM	55.6	60.2	52.8	60.7	63.8	53.9	54.8	59.8	-				47.5	53.5	42.3	66.3	72.5	62.3
7/3/2016	2:42:00 PM	55.2	62.2	51.9	58.9	65.0	54.6	52.3	59.2	-				43.8	48.9	41.5	67.2	73.2	63.7
7/3/2016	2:43:00 PM	54.5	62.9	52.1	58.4	62.0	54.9	52.9	62.4	-				43.8	53.6	41.1	67.6	76.1	64.1
7/3/2016	2:44:00 PM	53.1	56.0	51.9	58.7	64.3	55.0	55.7	62.1	-				44.5	59.6	41.6	67.9	77.1	65.0
7/3/2016	2:45:00 PM	53.7	56.8	52.2	58.4	62.8	55.3	53.2	57.0	-				43.1	45.8	41.2	66.7	72.2	64.0
7/3/2016	2:46:00 PM	54.0	55.9	52.4	59.0	65.2	55.2	54.2	58.5	-				42.9	45.1	41.1	67.7	75.8	64.5
7/3/2016	2:47:00 PM	53.6	57.3	52.3	58.4	62.8	55.0	53.5	59.7	-				43.7	47.0	41.5	66.4	71.4	63.9
7/3/2016	2:48:00 PM	54.0	62.0	52.5	56.9	61.7	53.1	54.0	60.2	-				43.4	46.1	41.4	66.7	72.2	64.0
7/3/2016	2:49:00 PM	54.0	57.8	52.7	58.8	62.2	53.8	52.7	59.1	-				60.1	80.1	42.1	67.3	73.8	64.2
7/3/2016	2:50:00 PM	53.5	56.7	51.8	56.2	61.7	52.5	52.2	58.4	-				43.5	46.4	41.4	66.7	72.3	64.4
7/3/2016	2:51:00 PM	55.3	60.7	52.2	57.1	62.5	53.6	53.4	57.8	-				46.1	49.5	42.7	66.8	73.0	64.5
7/3/2016	2:52:00 PM	53.2	57.5	51.7	60.4	68.4	54.1	54.5	58.5	-				43.7	48.6	41.6	66.4	69.6	64.1
7/3/2016	2:53:00 PM	54.4	57.5	51.8	57.9	62.7	52.2	52.6	55.6	-				45.8	50.1	42.1	66.6	71.8	63.3
7/3/2016	2:54:00 PM	54.0	57.1	52.4	60.4	68.4	57.2	52.8	57.6	-				43.8	47.3	41.5	66.8	72.3	64.0
7/3/2016	2:55:00 PM	53.7	59.9	52.1	60.3	64.6	56.7	52.3	56.4	-				43.2	45.6	41.2	67.4	73.2	64.3

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Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	2:56:00 PM	53.2	55.8	51.4	58.4	61.9	55.4	53.2	56.9	-				43.8	48.0	41.5	66.9	76.1	64.1
7/3/2016	2:57:00 PM	53.5	65.7	52.1	57.9	62.3	54.8	54.5	62.5	-				43.3	45.7	41.2	66.3	70.1	63.8
7/3/2016	2:58:00 PM	53.9	57.2	52.1	60.2	65.5	53.9	54.7	61.0	-				61.2	78.1	42.0	67.2	75.5	64.0
7/3/2016	2:59:00 PM	53.0	55.9	51.4	59.4	64.9	55.5	54.5	62.8	-				52.3	74.9	41.1	67.1	75.5	64.1
7/3/2016	3:00:00 PM	53.5	55.5	51.9	60.0	74.6	55.8	53.4	57.0	-	56.4	58.9	-	43.7	52.4	40.9	66.9	71.1	64.2
7/3/2016	3:01:00 PM	53.5	55.0	52.0	62.4	69.3	56.6	51.9	58.6	-	57.0	63.0	-	43.2	47.3	41.3	67.0	71.6	64.5
7/3/2016	3:02:00 PM	53.7	55.7	52.7	62.7	67.1	56.1	53.1	61.0	-	59.9	67.3	-	42.9	55.0	40.8	67.8	74.9	64.3
7/3/2016	3:03:00 PM	53.6	56.4	52.2	58.5	61.9	54.8	55.6	63.1	-	56.9	67.8	-	42.7	45.8	40.9	67.4	75.7	63.6
7/3/2016	3:04:00 PM	53.7	58.9	52.4	60.2	65.5	54.2	51.9	54.1	-	57.8	67.3	-	43.2	47.7	41.2	69.9	79.4	64.2
7/3/2016	3:05:00 PM	54.2	56.4	52.6	60.1	63.5	56.0	53.1	57.4	-	56.1	60.5	-	44.0	49.2	41.6	67.2	77.9	63.8
7/3/2016	3:06:00 PM	54.0	58.0	52.5	59.0	64.2	55.6	54.2	60.4	-	55.7	58.8	-	43.6	46.3	41.5	66.8	72.5	64.3
7/3/2016	3:07:00 PM	53.7	55.9	52.4	66.4	74.8	58.8	53.0	55.8	-	55.6	58.9	-	43.6	47.1	41.2	66.6	71.0	64.3
7/3/2016	3:08:00 PM	52.9	54.3	51.9	59.2	64.6	53.2	50.9	56.4	-	56.8	63.2	-	48.6	56.7	43.0	66.8	71.7	63.5
7/3/2016	3:09:00 PM	53.2	54.7	52.3	60.1	65.1	56.6	54.3	61.5	-	55.9	58.6	-	43.4	46.6	41.6	67.0	72.1	64.4
7/3/2016	3:10:00 PM	55.3	66.7	52.7	60.0	66.8	55.5	54.1	60.9	-	56.4	63.0	-	44.3	51.4	41.8	67.5	74.1	64.5
7/3/2016	3:11:00 PM	53.3	54.8	52.3	61.3	66.5	57.4	56.8	78.8	-	56.5	60.0	-	45.1	51.3	42.2	67.2	72.6	64.1
7/3/2016	3:12:00 PM	53.9	60.7	52.0	61.2	67.6	57.4	51.7	56.5	-	56.2	60.6	-	43.6	49.6	40.6	67.0	73.3	63.9
7/3/2016	3:13:00 PM	53.5	57.9	52.2	66.1	74.8	59.2	51.8	58.0	-	56.6	60.6	-	43.1	49.9	41.2	68.1	73.3	65.3
7/3/2016	3:14:00 PM	53.6	58.3	52.0	61.8	66.6	57.0	51.5	57.9	-	57.2	60.5	-	43.2	47.5	40.7	67.9	75.4	64.6
7/3/2016	3:15:00 PM	53.0	57.3	51.6	61.7	67.7	56.6	51.8	56.0	-	56.7	59.4	-	43.6	54.2	40.6	67.8	73.9	64.5
7/3/2016	3:16:00 PM	53.0	54.8	51.6	62.8	67.1	58.1	53.2	64.0	-	58.5	70.8	-	44.6	50.4	41.6	68.2	75.7	64.5
7/3/2016	3:17:00 PM	53.2	54.9	52.0	63.4	67.7	58.9	54.4	66.4	-	55.9	58.7	-	43.3	48.1	41.0	68.4	78.3	64.7
7/3/2016	3:18:00 PM	53.2	55.9	52.1	62.6	68.2	57.5	54.8	65.4	-	56.6	61.0	-	42.5	50.2	40.0	67.2	72.6	64.4
7/3/2016	3:19:00 PM	54.1	58.2	52.3	60.0	65.7	54.8	51.8	59.2	-	56.1	58.9	-	42.6	45.5	40.6	67.2	72.0	63.6
7/3/2016	3:20:00 PM	54.8	60.8	53.4	61.8	68.0	53.8	51.9	63.3	-	55.7	58.9	-	42.6	45.2	40.8	67.0	74.3	64.5
7/3/2016	3:21:00 PM	54.9	64.4	53.6	57.2	65.4	53.5	54.2	62.4	-	55.1	59.3	-	43.9	58.9	40.7	67.3	70.8	64.7
7/3/2016	3:22:00 PM	57.1	75.3	53.9	56.0	58.9	53.2	57.5	64.9	-	55.5	57.9	-	42.9	56.1	40.8	68.4	80.0	64.8
7/3/2016	3:23:00 PM	56.3	62.3	54.9	60.0	65.9	53.5	53.9	60.3	-	56.9	60.7	-	43.3	56.9	41.1	68.3	77.3	65.3
7/3/2016	3:24:00 PM	55.9	59.6	52.7	61.8	65.6	57.3	53.5	58.5	-	57.3	64.5	-	43.5	47.0	41.3	67.5	73.0	64.8
7/3/2016	3:25:00 PM	61.5	82.5	52.4	62.4	67.8	57.7	54.6	61.4	-	56.1	59.6	-	42.8	45.3	40.7	67.0	71.0	64.4
7/3/2016	3:26:00 PM	65.4	89.1	52.4	58.7	64.7	54.1	54.7	59.0	-	56.1	59.9	-	42.6	47.0	40.8	67.6	73.4	64.8
7/3/2016	3:27:00 PM	53.7	70.7	52.0	59.3	63.1	53.4	53.7	59.9	-	56.0	61.2	-	44.4	58.2	41.6	67.2	73.8	63.9
7/3/2016	3:28:00 PM	53.8	60.4	52.0	59.0	67.1	52.8	54.3	62.8	-	57.5	66.9	-	46.6	53.1	42.0	67.3	75.8	65.0
7/3/2016	3:29:00 PM	53.1	55.8	52.0	61.0	67.3	56.1	54.0	62.1	-	55.8	59.8	-	45.4	50.3	42.4	67.8	71.6	65.3
7/3/2016	3:30:00 PM	53.5	58.2	52.4	63.4	70.3	57.6	51.7	57.9	-	56.0	59.2	-	43.5	56.2	40.5	67.2	72.1	64.7
7/3/2016	3:31:00 PM	56.5	75.2	52.8	62.7	66.1	59.3	51.2	56.8	-	57.2	62.5	-	43.4	46.3	41.1	67.3	73.3	64.4
7/3/2016	3:32:00 PM	55.1	60.7	53.0	62.9	67.3	58.8	51.9	54.8	-	56.3	60.4	-	43.6	47.3	41.5	68.1	73.7	64.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	3:33:00 PM	56.5	68.0	52.5	63.6	67.8	56.2	56.0	63.9	-	56.5	62.7	-	44.2	47.9	41.8	68.3	76.6	64.7
7/3/2016	3:34:00 PM	54.1	56.9	52.5	62.4	69.1	54.6	53.2	59.1	-	56.9	61.6	-	44.2	54.3	41.3	68.8	80.0	64.4
7/3/2016	3:35:00 PM	54.4	57.2	52.8	62.4	68.3	55.3	52.2	56.8	-	56.6	60.5	-	43.7	47.1	41.7	67.4	72.2	64.4
7/3/2016	3:36:00 PM	53.4	56.4	52.3	62.7	67.1	56.5	51.5	58.0	-	58.4	70.3	-	43.6	47.9	41.5	67.6	75.8	64.7
7/3/2016	3:37:00 PM	53.8	57.5	52.6	63.0	70.3	57.3	52.9	59.2	-	56.9	60.9	-	42.5	44.8	41.0	69.2	78.2	63.9
7/3/2016	3:38:00 PM	53.6	55.8	52.3	62.6	71.4	57.1	51.3	55.9	-	56.8	63.9	-	42.6	44.6	40.7	67.9	73.3	64.6
7/3/2016	3:39:00 PM	53.9	56.1	52.5	62.7	68.4	57.0	52.3	57.5	-	56.9	60.8	-	42.9	47.2	40.8	67.8	71.9	65.7
7/3/2016	3:40:00 PM	54.3	55.8	53.1	64.5	72.2	59.1	53.4	59.8	-	57.8	67.9	-	42.8	46.1	40.9	68.4	75.9	64.6
7/3/2016	3:41:00 PM	54.0	55.8	52.4	63.8	70.4	56.1	53.2	58.3	-	58.0	68.7	-	43.0	47.5	40.4	67.2	72.3	64.2
7/3/2016	3:42:00 PM	53.7	55.8	52.4	64.3	73.1	53.9	52.5	57.7	-	55.2	63.6	-	43.9	47.5	42.0	68.1	79.1	64.4
7/3/2016	3:43:00 PM	54.0	60.8	52.4	62.4	67.5	53.6	50.0	52.6	-	56.2	61.9	-	43.4	46.6	41.7	69.7	74.7	64.8
7/3/2016	3:44:00 PM	54.6	61.3	52.3	61.3	67.8	54.0	53.9	59.3	-	56.2	58.7	-	43.8	47.6	41.4	67.7	75.1	64.2
7/3/2016	3:45:00 PM	53.4	55.6	51.9	63.2	70.8	57.7	54.2	59.4	-	56.0	62.6	-	42.8	47.3	40.9	68.5	74.5	64.8
7/3/2016	3:46:00 PM	53.7	55.1	52.3	63.0	69.7	58.3	52.8	60.3	-	56.4	60.9	-	45.4	50.4	41.2	67.7	73.2	64.7
7/3/2016	3:47:00 PM	53.9	61.5	52.6	64.0	71.9	56.0	52.7	60.7	-	57.2	62.9	-	43.6	46.8	41.3	69.0	76.8	64.9
7/3/2016	3:48:00 PM	54.0	57.4	52.5	63.4	72.0	57.2	54.2	65.3	-	56.2	59.2	-	43.3	46.6	41.1	68.1	74.8	65.2
7/3/2016	3:49:00 PM	53.9	60.2	52.6	64.6	69.0	59.9	53.1	61.0	-	55.6	60.2	-	48.4	56.8	41.3	68.3	74.6	64.5
7/3/2016	3:50:00 PM	56.7	66.4	53.6	66.5	72.1	58.6	52.4	56.8	-	58.5	70.4	-	50.3	60.9	41.7	67.8	75.0	64.3
7/3/2016	3:51:00 PM	53.9	58.3	52.8	65.6	70.4	59.2	55.7	63.4	-	56.4	61.1	-	43.5	45.9	41.3	68.2	75.3	65.0
7/3/2016	3:52:00 PM	53.6	58.7	52.4	65.0	69.5	60.1	52.9	58.6	-	57.4	63.0	-	43.5	46.4	41.2	68.2	73.6	64.7
7/3/2016	3:53:00 PM	53.8	57.7	52.2	63.7	67.4	59.3	51.0	55.0	-	57.2	60.9	-	43.8	47.1	41.3	67.3	71.9	64.0
7/3/2016	3:54:00 PM	54.6	60.1	53.0	63.5	66.8	58.0	57.0	65.4	-	56.7	63.2	-	44.0	49.0	40.9	68.4	76.7	65.1
7/3/2016	3:55:00 PM	54.3	57.8	53.0	63.9	68.1	54.6	53.8	59.1	-	56.0	59.8	-	44.0	47.3	41.5	67.8	73.7	64.1
7/3/2016	3:56:00 PM	53.4	54.5	52.4	65.9	72.3	54.5	55.6	65.2	-	55.2	60.2	-	42.2	46.1	40.6	68.5	75.5	65.2
7/3/2016	3:57:00 PM	53.3	55.5	52.2	64.3	70.5	55.3	53.9	61.5	-	55.4	59.7	-	42.6	45.1	40.7	68.3	74.7	65.0
7/3/2016	3:58:00 PM	54.9	65.8	52.5	65.7	72.5	58.0	54.9	62.1	-	56.6	62.9	-	42.7	47.7	40.5	68.9	78.0	65.3
7/3/2016	3:59:00 PM	54.7	59.3	52.7	65.8	76.2	58.5	53.2	59.2	-	57.0	64.3	-	42.9	46.1	41.0	67.7	73.2	64.4
7/3/2016	4:00:00 PM	54.4	58.5	52.3	64.9	69.2	59.2	54.4	59.3	-	57.6	69.7	-	43.0	47.3	41.3	67.5	71.9	64.9
7/3/2016	4:01:00 PM	53.5	57.6	52.4	65.9	70.0	59.5	51.0	54.5	-	56.5	60.5	-	42.7	45.2	40.0	67.8	73.3	64.4
7/3/2016	4:02:00 PM	53.7	55.8	52.7	63.5	69.4	59.0	54.3	63.0	-	58.9	67.1	-	43.3	49.1	41.1	68.4	75.3	65.1
7/3/2016	4:03:00 PM	55.2	60.4	53.0	64.5	70.1	57.6	53.4	57.8	-	59.1	68.6	-	43.0	47.1	41.0	68.8	76.5	65.4
7/3/2016	4:04:00 PM	54.3	57.2	52.3	64.4	69.1	59.4	52.1	58.3	-	57.0	67.2	-	56.3	75.9	40.8	68.6	75.4	64.2
7/3/2016	4:05:00 PM	53.9	55.8	52.8	66.9	71.6	56.7	51.5	61.4	-	56.7	59.6	-	43.5	46.4	40.8	68.0	74.0	65.1
7/3/2016	4:06:00 PM	55.5	61.2	53.2	66.7	70.8	58.1	52.6	60.7	-	57.9	62.2	-	43.8	51.2	41.7	68.7	75.7	65.2
7/3/2016	4:07:00 PM	57.2	63.0	52.8	63.6	67.6	57.2	55.6	63.6	-	58.3	63.8	-	42.9	46.4	41.2	68.6	73.7	65.4
7/3/2016	4:08:00 PM	53.7	55.6	52.3	64.6	67.9	59.2	54.5	64.4	-	57.8	62.8	-	43.3	46.2	41.4	67.5	72.1	64.1
7/3/2016	4:09:00 PM	53.7	60.6	52.4	65.4	71.5	60.7	55.0	59.4	-	57.0	68.3	-	43.5	46.9	41.5	68.2	74.2	65.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	4:10:00 PM	54.0	60.1	52.6	64.2	72.8	54.5	55.7	61.8	-	57.5	62.9	-	43.3	50.3	41.0	68.8	75.4	65.2
7/3/2016	4:11:00 PM	53.5	58.6	52.3	64.7	70.2	57.6	54.5	62.9	-	57.7	63.3	-	43.2	46.3	41.3	67.6	73.8	65.1
7/3/2016	4:12:00 PM	55.9	59.8	53.1	63.3	69.6	57.1	56.4	62.4	-	57.8	65.4	-	43.3	45.7	41.1	68.4	75.3	65.2
7/3/2016	4:13:00 PM	54.9	57.8	52.9	63.7	67.7	56.2	53.5	60.2	-	57.0	62.4	-	43.2	45.5	41.6	68.3	73.3	65.1
7/3/2016	4:14:00 PM	54.6	66.0	52.5	64.6	72.1	55.3	54.2	57.3	-	57.5	66.2	-	43.7	48.5	41.9	68.4	73.5	64.4
7/3/2016	4:15:00 PM	54.1	55.9	52.8	63.8	71.7	56.8	54.5	61.6	-	57.7	63.0	-	43.0	44.7	41.2	68.3	74.8	64.7
7/3/2016	4:16:00 PM	54.5	58.9	53.1	67.2	72.5	62.6	52.7	60.4	-	60.1	71.9	-	42.5	45.0	40.6	68.5	73.9	65.1
7/3/2016	4:17:00 PM	54.8	63.0	53.1	64.9	70.3	55.4	57.0	69.6	-	57.4	62.8	-	42.7	45.3	40.9	68.6	76.4	65.1
7/3/2016	4:18:00 PM	57.8	60.7	55.2	61.8	70.2	56.3	55.1	61.4	-	56.5	59.1	-	42.9	45.4	41.3	68.5	73.0	65.3
7/3/2016	4:19:00 PM	54.8	61.3	52.2	64.9	69.4	58.2	53.8	60.1	-	56.5	59.4	-	42.7	45.6	41.0	68.5	74.6	64.5
7/3/2016	4:20:00 PM	53.1	56.6	52.1	63.5	70.0	56.9	50.9	55.5	-	57.2	66.8	-	43.7	46.5	40.9	67.9	73.3	65.1
7/3/2016	4:21:00 PM	53.3	56.9	52.3	66.5	75.4	57.9	50.9	54.6	-	58.2	67.8	-	44.2	51.5	42.0	68.6	73.9	65.8
7/3/2016	4:22:00 PM	54.7	65.6	52.5	66.9	75.1	57.9	53.9	59.0	-	59.1	67.8	-	44.5	53.3	41.6	68.8	73.6	65.8
7/3/2016	4:23:00 PM	56.0	65.9	53.7	64.9	69.1	58.4	53.1	60.9	-	56.6	61.8	-	43.6	46.1	41.2	68.7	74.4	64.9
7/3/2016	4:24:00 PM	57.1	68.7	52.8	65.0	68.8	59.7	54.5	61.8	-	56.3	61.4	-	43.7	45.4	41.8	68.6	74.2	64.8
7/3/2016	4:25:00 PM	53.7	60.1	52.3	65.1	74.8	59.1	53.2	58.8	-	58.4	66.2	-	44.1	48.0	42.3	69.0	78.0	65.5
7/3/2016	4:26:00 PM	53.8	58.1	52.4	65.3	70.8	57.8	52.7	58.1	-	56.4	59.3	-	44.1	46.9	42.0	69.9	81.5	65.9
7/3/2016	4:27:00 PM	59.5	80.8	52.6	66.5	71.1	59.9	54.4	60.3	-	57.8	62.5	-	47.6	57.3	43.3	68.6	72.9	65.5
7/3/2016	4:28:00 PM	58.3	70.3	52.3	67.3	71.8	59.0	53.9	59.3	-	57.7	63.1	-	44.0	46.8	41.7	68.2	72.4	64.8
7/3/2016	4:29:00 PM	60.6	75.6	52.5	63.8	69.9	56.3	52.7	56.4	-	56.9	61.0	-	44.6	57.4	41.9	70.0	74.6	65.7
7/3/2016	4:30:00 PM	56.4	69.2	50.6	64.6	68.9	59.4	53.6	59.8	-	58.3	66.9	-	45.3	50.5	42.3	68.9	77.1	65.5
7/3/2016	4:31:00 PM	49.6	54.9	46.1	73.4	83.7	60.2	55.5	70.7	-	57.0	66.3	-	44.3	49.5	41.8	67.5	71.8	64.9
7/3/2016	4:32:00 PM	48.8	54.7	44.9	63.1	69.9	56.9	55.1	63.2	-	55.8	60.1	-	48.3	53.7	43.6	68.6	73.4	64.7
7/3/2016	4:33:00 PM	49.1	52.6	46.2	64.8	69.2	60.7	53.8	66.4	-	57.1	66.4	-	57.6	66.5	49.2	68.7	75.0	65.3
7/3/2016	4:34:00 PM	51.9	65.1	44.8	65.0	70.0	58.9	53.7	57.7	-	59.0	62.3	-	48.2	56.2	44.4	68.4	72.7	64.5
7/3/2016	4:35:00 PM	48.9	65.1	44.3	62.7	68.5	57.1	52.5	57.0	-	58.4	63.1	-	45.9	51.5	43.1	72.0	79.3	66.0
7/3/2016	4:36:00 PM	48.8	54.4	44.5	63.9	67.9	56.6	54.3	60.5	-	58.6	64.0	-	44.8	47.0	42.8	69.3	76.5	66.3
7/3/2016	4:37:00 PM	49.3	58.5	46.0	64.2	69.1	56.7	52.8	62.0	-	58.4	64.8	-	44.8	48.8	41.7	67.9	72.0	63.9
7/3/2016	4:38:00 PM	50.2	56.9	45.8	66.0	70.7	58.8	54.5	70.6	-	58.1	63.0	-	46.0	60.5	41.5	68.6	74.2	64.8
7/3/2016	4:39:00 PM	51.4	59.7	47.6	65.6	73.6	57.5	53.6	59.5	-	57.9	62.7	-	44.7	47.5	42.0	68.7	75.2	65.3
7/3/2016	4:40:00 PM	49.7	54.6	46.3	66.1	71.4	61.4	54.6	61.5	-	57.6	64.6	-	55.8	76.0	41.7	69.4	76.4	66.1
7/3/2016	4:41:00 PM	49.7	55.0	46.2	64.4	72.7	56.8	53.1	66.3	-	57.5	60.7	-	58.7	78.6	41.7	68.9	75.7	64.4
7/3/2016	4:42:00 PM	49.8	53.6	46.0	66.3	71.4	59.8	53.0	59.5	-	59.9	69.5	-	43.3	45.6	41.5	68.3	73.3	64.8
7/3/2016	4:43:00 PM	52.5	59.6	48.6	64.9	70.1	57.8	52.4	60.5	-	57.9	62.4	-	43.5	49.3	41.4	69.0	76.5	65.3
7/3/2016	4:44:00 PM	50.6	54.4	48.7	66.3	72.7	55.3	54.7	58.9	-	57.3	60.4	-	43.9	46.0	41.9	68.6	72.6	65.2
7/3/2016	4:45:00 PM	51.5	54.6	49.7	57.5	62.9	52.1	55.2	60.3	-	62.9	75.7	-	43.4	45.3	41.5	68.3	73.7	64.9
7/3/2016	4:46:00 PM	53.1	58.9	46.6	60.6	66.8	55.2	55.3	63.1	-	58.1	70.2	-	43.4	45.4	41.7	69.2	74.3	64.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	4:47:00 PM	51.9	58.6	45.8	65.4	72.8	58.3	52.3	56.3	-	63.1	76.0	-	43.8	52.7	41.6	67.8	72.8	64.8
7/3/2016	4:48:00 PM	53.4	56.6	50.4	66.3	74.4	59.0	53.7	60.1	-	57.6	61.7	-	43.9	55.2	41.7	68.4	76.0	65.4
7/3/2016	4:49:00 PM	51.8	56.4	45.8	62.0	66.0	57.7	54.3	58.3	-	57.0	61.5	-	43.3	45.0	41.6	69.0	76.4	66.0
7/3/2016	4:50:00 PM	48.8	56.3	45.3	60.5	63.3	57.8	55.2	76.3	-	56.4	61.5	-	43.7	46.0	41.7	68.4	71.9	65.3
7/3/2016	4:51:00 PM	50.0	55.3	45.8	60.6	64.7	55.9	54.3	58.2	-	57.1	62.8	-	43.7	46.0	41.7	67.9	74.3	65.3
7/3/2016	4:52:00 PM	49.8	55.1	44.7	61.1	66.0	55.1	54.7	59.5	-	56.7	60.8	-	43.7	45.3	41.9	68.5	73.7	64.3
7/3/2016	4:53:00 PM	47.2	50.6	44.5	61.8	66.3	56.3	57.4	62.0	-	56.6	59.5	-	43.7	45.9	42.1	69.0	74.5	65.2
7/3/2016	4:54:00 PM	48.3	63.5	45.0	62.7	71.8	57.0	56.1	65.5	-	56.2	61.6	-	43.1	46.1	41.5	69.3	75.8	66.4
7/3/2016	4:55:00 PM	53.7	65.1	46.7	64.6	73.4	55.7	53.3	57.5	-	56.1	60.5	-	42.7	45.5	41.1	68.5	74.4	63.5
7/3/2016	4:56:00 PM	50.8	57.6	46.1	60.2	63.6	56.0	55.5	61.1	-	60.3	73.4	-	43.1	45.8	41.0	68.3	76.3	64.8
7/3/2016	4:57:00 PM	52.3	58.1	46.6	62.9	67.3	55.7	54.7	60.4	-	62.6	78.6	-	43.5	47.0	41.0	68.6	75.7	64.9
7/3/2016	4:58:00 PM	52.5	68.2	47.5	61.3	73.5	55.5	55.8	60.4	-	57.2	68.2	-	43.1	46.0	41.3	68.2	71.9	64.8
7/3/2016	4:59:00 PM	51.4	64.5	47.5	63.8	72.2	58.5	55.1	62.6	-	56.2	60.1	-	44.5	50.6	41.5	67.8	73.0	64.0
7/3/2016	5:00:00 PM	51.2	61.8	46.8	61.7	65.3	58.2	54.4	63.3	-	57.7	66.2	-	45.9	57.5	41.9	68.2	73.4	64.1
7/3/2016	5:01:00 PM	49.5	55.5	45.4	61.5	64.2	57.7	56.5	61.0	-	56.5	62.5	-	44.8	55.4	41.5	68.1	72.5	64.4
7/3/2016	5:02:00 PM	52.8	59.4	45.6	64.0	70.6	57.5	53.6	64.4	-	56.1	61.3	-	42.9	45.8	40.9	68.5	74.8	63.9
7/3/2016	5:03:00 PM	54.6	61.1	53.0	61.2	65.7	54.1	53.7	73.0	-	56.7	61.1	-	45.2	52.7	41.6	68.0	75.5	64.5
7/3/2016	5:04:00 PM	54.3	65.4	52.1	60.8	64.7	54.8	55.9	61.0	-	55.5	58.4	-	44.2	56.5	41.4	68.6	76.1	65.2
7/3/2016	5:05:00 PM	53.2	58.3	51.7	61.9	65.7	55.7	56.4	60.2	-	55.0	59.7	-	46.8	53.9	43.3	67.7	73.6	64.8
7/3/2016	5:06:00 PM	52.4	56.9	46.1	62.9	66.5	57.0	52.1	58.1	-	55.1	58.4	-	44.5	49.1	41.9	68.0	72.1	64.7
7/3/2016	5:07:00 PM	56.2	66.2	48.0	61.7	66.2	55.2	53.4	63.3	-	54.9	60.8	-	43.3	45.8	41.5	69.4	75.7	65.8
7/3/2016	5:08:00 PM	50.3	54.6	46.0	63.8	71.6	58.4	52.1	57.1	-	55.2	59.6	-	43.9	47.5	41.6	68.4	73.7	65.2
7/3/2016	5:09:00 PM	50.6	55.8	46.3	63.7	69.4	59.1	54.9	62.5	-	55.7	60.5	-	43.9	49.7	41.2	68.2	71.4	65.7
7/3/2016	5:10:00 PM	51.3	66.9	45.6	65.6	70.5	57.5	54.6	60.4	-	54.6	58.7	-	44.8	59.5	42.6	68.3	76.9	63.8
7/3/2016	5:11:00 PM	53.7	64.1	46.2	64.0	69.9	57.2	54.1	61.2	-	56.8	60.6	-	43.9	46.4	42.0	67.9	74.0	64.3
7/3/2016	5:12:00 PM	50.8	58.6	44.7	64.7	69.6	58.9	53.7	61.7	-	56.1	59.9	-	44.3	54.5	42.4	68.7	75.0	64.9
7/3/2016	5:13:00 PM	49.3	55.0	46.0	65.5	75.8	57.6	54.4	60.7	-	58.5	71.0	-	44.1	48.0	41.6	68.0	72.7	65.2
7/3/2016	5:14:00 PM	47.2	52.8	44.8	64.3	71.2	54.8	51.2	56.3	-	56.7	61.5	-	44.5	51.0	42.4	68.3	70.9	65.4
7/3/2016	5:15:00 PM	50.5	59.8	44.3	62.1	69.1	55.5	51.4	57.1	-	56.7	63.9	-	44.0	47.2	41.9	68.5	72.1	65.0
7/3/2016	5:16:00 PM	54.0	58.0	52.7	66.3	72.5	58.4	52.1	60.7	-	56.1	60.3	-	45.7	55.7	42.7	68.7	72.2	65.7
7/3/2016	5:17:00 PM	54.7	58.7	52.3	65.8	71.0	57.9	54.4	59.5	-	56.2	59.0	-	45.1	47.9	42.9	68.2	74.7	64.6
7/3/2016	5:18:00 PM	53.7	55.6	52.0	67.1	70.8	56.8	52.9	58.4	-	55.8	59.0	-	45.4	54.2	42.4	69.3	78.0	65.4
7/3/2016	5:19:00 PM	53.9	57.3	51.0	67.4	73.5	61.4	52.0	56.1	-	62.9	78.3	-	47.6	51.2	44.2	69.2	75.9	65.2
7/3/2016	5:20:00 PM	50.7	56.0	46.9	65.5	70.2	55.2	51.2	56.4	-	56.6	66.4	-	45.6	49.2	43.1	68.6	73.7	65.1
7/3/2016	5:21:00 PM	51.3	58.8	45.4	65.6	69.9	56.8	51.8	55.8	-	55.6	61.0	-	46.0	60.0	42.8	68.1	75.8	63.2
7/3/2016	5:22:00 PM	58.1	69.4	47.3	64.3	71.4	57.4	53.9	59.2	-	56.5	60.8	-	44.5	48.6	42.0	68.3	72.1	64.6
7/3/2016	5:23:00 PM	48.2	52.1	45.8	65.8	70.7	56.2	55.4	59.6	-	56.2	63.6	-	45.1	49.3	42.4	67.7	75.1	65.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	5:24:00 PM	51.4	61.4	45.9	65.7	71.9	60.2	54.4	61.4	-	57.7	65.4	-	47.2	51.7	42.2	68.1	75.7	64.5
7/3/2016	5:25:00 PM	50.9	58.5	45.6	65.8	71.2	55.1	51.3	55.1	-	55.6	58.8	-	44.2	50.1	41.9	68.4	74.6	64.8
7/3/2016	5:26:00 PM	51.6	57.0	46.9	65.3	70.5	55.9	50.8	55.3	-	55.7	59.3	-	43.7	47.0	41.5	68.6	72.6	62.9
7/3/2016	5:27:00 PM	51.7	60.2	45.4	64.5	77.0	54.6	51.1	55.5	-	56.0	60.9	-	43.6	46.3	41.9	69.0	76.4	65.4
7/3/2016	5:28:00 PM	54.2	56.1	53.0	64.8	69.2	57.7	54.2	62.3	-	61.6	74.9	-	43.3	48.5	41.1	68.6	74.5	64.8
7/3/2016	5:29:00 PM	54.9	58.6	53.1	66.5	71.0	57.6	53.9	63.2	-	57.8	67.7	-	43.6	47.2	40.7	67.9	72.3	64.9
7/3/2016	5:30:00 PM	54.3	58.0	52.3	67.1	75.3	58.9	51.6	71.6	-	56.3	63.3	-	45.1	57.9	42.0	68.0	73.7	64.2
7/3/2016	5:31:00 PM	53.4	56.1	52.0	66.6	72.0	58.1	50.1	56.6	-	55.4	58.2	-	43.8	49.3	41.3	68.6	76.1	63.8
7/3/2016	5:32:00 PM	51.7	56.9	47.1	67.3	71.1	63.4	53.5	63.2	-	56.5	60.6	-	43.7	50.8	41.8	68.5	75.3	63.8
7/3/2016	5:33:00 PM	49.5	54.0	47.0	64.6	71.6	55.0	54.5	62.3	-	56.0	60.0	-	44.4	50.8	42.1	68.6	72.9	66.1
7/3/2016	5:34:00 PM	50.7	55.7	46.5	65.6	70.2	57.1	53.4	62.8	-	57.1	60.7	-	45.4	50.5	42.8	68.3	74.6	64.2
7/3/2016	5:35:00 PM	53.9	66.7	46.0	65.6	71.7	57.9	56.6	65.4	-	57.1	61.2	-	44.8	48.8	42.6	68.3	73.7	64.6
7/3/2016	5:36:00 PM	52.5	65.9	45.8	65.4	72.1	58.2	57.1	65.3	-	56.3	58.6	-	44.8	50.5	42.3	68.4	73.7	64.8
7/3/2016	5:37:00 PM	51.1	58.2	47.5	68.7	74.4	62.9	58.3	66.9	-	55.7	58.1	-	44.9	48.6	42.4	68.8	80.4	65.2
7/3/2016	5:38:00 PM	49.2	57.5	45.1	67.4	76.9	59.7	62.3	77.5	-	55.9	60.5	-	45.0	50.6	42.4	68.1	72.4	64.3
7/3/2016	5:39:00 PM	54.1	58.7	52.7	64.8	70.2	60.2	51.1	60.0	-	56.0	59.4	-	44.3	52.1	42.0	68.0	72.9	64.6
7/3/2016	5:40:00 PM	54.6	56.7	53.1	64.0	73.1	58.2	51.5	63.9	-	56.6	59.4	-	44.5	50.4	41.8	68.1	71.9	64.3
7/3/2016	5:41:00 PM	54.9	57.8	52.1	64.6	75.5	53.3	56.2	75.9	-	55.7	58.9	-	46.4	51.2	42.6	69.0	77.9	64.5
7/3/2016	5:42:00 PM	53.2	56.3	51.9	65.5	71.8	54.5	53.7	60.4	-	55.9	60.1	-	44.9	48.9	42.8	68.3	74.9	64.0
7/3/2016	5:43:00 PM	53.1	56.5	47.8	65.5	73.6	57.3	59.9	73.7	-	55.8	61.6	-	44.5	48.6	42.0	69.0	76.6	64.5
7/3/2016	5:44:00 PM	48.1	54.9	44.9	68.5	74.1	59.1	52.6	59.7	-	55.8	58.6	-	44.3	51.1	42.0	68.6	76.9	63.6
7/3/2016	5:45:00 PM	50.2	56.2	44.8	66.2	72.2	57.0	54.1	61.2	-	55.8	61.7	-	45.7	49.7	42.6	68.9	79.0	64.1
7/3/2016	5:46:00 PM	49.4	58.5	46.0	66.4	71.7	58.4	55.3	68.1	-	56.3	60.4	-	45.3	49.4	42.9	68.1	71.9	63.9
7/3/2016	5:47:00 PM	48.3	51.2	45.8	67.7	70.6	61.4	55.4	65.1	-	57.0	60.3	-	44.6	49.5	42.7	68.7	75.4	63.6
7/3/2016	5:48:00 PM	50.2	54.3	46.2	62.2	68.0	56.2	60.3	70.7	-	57.0	63.9	-	43.6	49.0	41.3	68.7	73.2	65.7
7/3/2016	5:49:00 PM	48.2	51.2	45.3	68.6	76.3	57.5	53.6	62.3	-	56.5	63.3	-	43.7	54.2	41.4	68.0	73.7	64.1
7/3/2016	5:50:00 PM	52.8	56.6	46.3	69.6	77.0	61.7	54.4	71.6	-	56.6	63.9	-	47.7	52.6	43.0	67.8	71.5	63.2
7/3/2016	5:51:00 PM	54.1	57.2	53.0	69.6	77.2	62.3	61.2	79.6	-	56.2	59.1	-	44.3	48.5	41.0	67.4	72.2	62.6
7/3/2016	5:52:00 PM	54.2	56.5	51.9	66.5	71.1	61.4	50.7	57.5	-	62.7	75.0	-	44.0	51.6	41.6	68.3	72.4	65.0
7/3/2016	5:53:00 PM	53.8	60.6	52.0	66.6	74.0	59.3	49.7	54.8	-	59.8	71.1	-	54.5	62.2	42.1	68.4	78.6	65.5
7/3/2016	5:54:00 PM	54.9	64.7	52.1	65.1	71.5	58.3	50.6	53.6	-	56.6	64.7	-	62.8	72.0	42.6	67.7	73.0	63.0
7/3/2016	5:55:00 PM	51.0	57.1	44.6	65.4	71.2	55.3	49.3	52.7	-	56.2	63.5	-	44.2	54.1	41.7	71.2	78.5	65.6
7/3/2016	5:56:00 PM	50.4	55.2	45.6	64.9	70.2	58.5	49.9	53.6	-	56.2	61.7	-	43.5	50.1	41.4	68.2	76.8	65.0
7/3/2016	5:57:00 PM	50.1	55.9	45.9	64.7	74.1	57.9	51.0	53.0	-	55.4	59.1	-	43.9	54.4	41.5	68.2	76.1	64.5
7/3/2016	5:58:00 PM	49.8	61.2	45.6	66.5	73.2	59.0	51.6	62.4	-	56.9	67.1	-	43.7	47.5	41.8	68.4	74.8	62.8
7/3/2016	5:59:00 PM	50.7	56.0	46.9	67.3	73.0	59.7	53.0	59.9	-	56.9	60.8	-	43.8	48.9	41.3	68.2	72.2	64.3
7/3/2016	6:00:00 PM	49.8	60.1	45.6	65.8	70.7	60.4	51.9	62.3	-	57.4	66.5	-	43.7	47.2	41.3	68.0	72.5	61.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	6:01:00 PM	51.3	57.2	45.7	67.1	72.2	54.9	50.7	56.4	-	57.8	67.7	-	44.0	47.1	42.1	68.2	73.4	64.7
7/3/2016	6:02:00 PM	54.5	63.8	52.9	63.4	73.2	52.7	50.4	55.5	-	56.4	61.8	-	44.1	52.0	42.0	68.7	82.3	65.0
7/3/2016	6:03:00 PM	54.2	55.8	52.9	67.2	71.4	61.7	54.1	60.9	-	56.4	62.5	-	44.2	47.7	42.1	68.5	77.2	64.0
7/3/2016	6:04:00 PM	54.5	57.8	53.2	65.8	73.1	59.1	55.1	69.7	-	55.2	59.3	-	44.2	49.2	41.8	68.8	84.3	63.3
7/3/2016	6:05:00 PM	54.3	57.5	52.4	67.6	72.8	61.3	53.4	57.9	-	56.2	60.9	-	44.0	47.2	41.6	68.4	79.5	63.5
7/3/2016	6:06:00 PM	53.1	56.8	46.9	66.6	73.4	55.1	53.1	58.5	-	55.9	62.0	-	44.0	47.8	42.1	67.5	75.8	63.2
7/3/2016	6:07:00 PM	54.1	71.3	44.5	68.0	73.0	55.1	52.3	62.7	-	56.9	63.5	-	43.7	48.6	41.6	67.2	72.8	62.5
7/3/2016	6:08:00 PM	55.6	68.6	44.9	68.3	73.1	55.3	52.1	57.7	-	56.6	61.4	-	43.3	47.1	41.3	69.0	82.8	63.0
7/3/2016	6:09:00 PM	48.7	54.6	45.6	68.3	72.4	62.6	53.9	61.9	-	55.2	57.7	-	43.1	46.9	40.6	67.9	73.4	62.8
7/3/2016	6:10:00 PM	50.2	54.1	45.8	65.8	73.9	57.8	59.3	74.8	-	55.5	58.1	-	44.0	47.7	41.7	68.5	77.1	65.2
7/3/2016	6:11:00 PM	50.4	55.5	45.0	65.7	72.1	60.3	52.2	64.9	-	54.7	58.0	-	43.8	51.0	41.2	68.2	75.0	64.6
7/3/2016	6:12:00 PM	49.6	54.9	45.6	65.7	71.4	59.0	52.7	60.0	-	56.5	61.6	-	45.3	57.1	41.6	69.4	75.9	65.7
7/3/2016	6:13:00 PM	53.1	57.5	45.8	65.5	71.7	57.3	50.6	59.6	-	56.3	58.5	-	43.3	49.4	40.8	68.4	72.3	64.7
7/3/2016	6:14:00 PM	54.0	56.7	52.7	63.2	72.7	52.0	50.8	55.8	-	56.2	61.8	-	44.9	53.3	41.5	67.7	71.9	63.6
7/3/2016	6:15:00 PM	55.1	60.7	53.4	63.3	70.1	55.8	53.1	63.1	-	55.0	57.7	-	45.3	53.9	42.1	68.5	77.5	62.8
7/3/2016	6:16:00 PM	54.5	60.1	52.8	65.0	69.3	59.6	53.6	61.4	-	55.4	58.7	-	44.5	50.8	42.6	68.7	79.1	65.0
7/3/2016	6:17:00 PM	55.7	68.2	53.6	64.8	68.1	58.4	53.8	59.4	-	57.2	65.9	-	43.7	48.8	41.6	69.1	77.1	62.8
7/3/2016	6:18:00 PM	51.9	63.3	45.7	66.7	71.5	59.9	53.0	60.6	-	56.0	63.5	-	45.1	52.3	41.4	68.2	73.5	64.4
7/3/2016	6:19:00 PM	49.5	55.1	45.6	64.9	69.9	58.4	55.0	63.0	-	56.5	61.0	-	44.1	49.9	42.0	69.6	80.5	64.3
7/3/2016	6:20:00 PM	48.9	54.8	44.2	63.3	70.9	55.2	51.5	55.5	-	56.1	59.4	-	44.3	47.3	41.5	69.0	75.0	64.2
7/3/2016	6:21:00 PM	50.3	66.0	45.2	64.4	71.6	57.3	53.3	60.0	-	56.1	61.2	-	43.9	46.2	41.8	68.2	78.4	63.7
7/3/2016	6:22:00 PM	51.9	58.5	44.7	66.9	73.1	59.1	54.4	61.4	-	56.5	62.0	-	43.8	56.6	41.8	68.0	76.3	63.2
7/3/2016	6:23:00 PM	47.3	53.4	43.4	66.1	71.9	57.8	51.9	57.5	-	56.6	59.2	-	43.7	46.9	42.1	68.7	78.4	64.5
7/3/2016	6:24:00 PM	51.6	58.1	45.0	66.1	70.6	58.8	57.0	72.5	-	56.3	60.2	-	44.6	57.5	41.3	68.5	77.5	62.7
7/3/2016	6:25:00 PM	54.0	64.1	51.7	66.8	71.4	60.5	56.2	61.7	-	55.2	58.5	-	45.4	53.7	41.4	68.0	78.6	64.7
7/3/2016	6:26:00 PM	54.7	58.4	52.5	66.3	71.2	60.0	52.4	57.6	-	56.7	64.3	-	43.1	47.3	41.5	68.2	72.3	63.9
7/3/2016	6:27:00 PM	54.4	55.8	53.0	65.0	71.1	56.5	52.6	63.8	-	55.9	61.0	-	44.1	52.3	41.1	68.4	80.5	63.2
7/3/2016	6:28:00 PM	54.1	55.9	52.9	65.7	70.3	59.6	57.5	70.1	-	56.0	58.9	-	45.0	56.6	41.8	68.8	76.1	64.6
7/3/2016	6:29:00 PM	53.3	56.5	46.0	64.5	69.6	55.4	51.9	62.2	-	57.1	65.9	-	45.7	57.9	41.6	67.4	76.8	62.2
7/3/2016	6:30:00 PM	51.1	62.5	44.6	66.8	71.2	58.0	53.4	64.0	-	56.0	59.8	-	46.0	57.7	43.0	69.3	75.3	64.2
7/3/2016	6:31:00 PM	50.5	58.9	44.4	67.6	75.7	60.0	49.6	52.7	-	55.7	61.1	-	43.8	46.0	41.6	68.1	76.3	63.3
7/3/2016	6:32:00 PM	47.8	55.2	43.8	64.3	70.1	56.3	52.3	59.0	-	55.5	58.7	-	43.6	49.7	41.3	68.3	73.7	63.6
7/3/2016	6:33:00 PM	47.2	52.2	44.2	61.6	66.8	54.8	56.4	64.4	-	56.5	60.3	-	44.1	52.8	41.9	68.2	77.0	62.9
7/3/2016	6:34:00 PM	50.6	65.0	43.9	65.3	71.2	57.5	51.9	61.7	-	57.7	66.6	-	44.0	49.3	41.7	68.3	74.1	64.4
7/3/2016	6:35:00 PM	50.5	63.1	44.1	66.0	72.2	55.9	56.2	65.3	-	55.6	60.5	-	51.2	59.0	42.3	67.8	72.8	62.6
7/3/2016	6:36:00 PM	53.8	68.6	44.4	65.6	72.0	54.3	52.6	55.6	-	60.0	79.2	-	45.9	52.4	42.3	67.9	72.3	63.1
7/3/2016	6:37:00 PM	54.7	60.5	52.7	61.5	68.0	52.9	61.9	78.8	-	56.8	71.1	-	44.5	48.9	42.0	68.6	74.7	63.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	6:38:00 PM	54.6	56.5	53.1	62.7	68.0	54.1	51.4	56.8	-	56.6	60.6	-	44.1	47.9	41.7	68.8	74.6	65.2
7/3/2016	6:39:00 PM	54.5	58.7	52.7	65.4	74.1	55.2	51.7	58.2	-	56.6	60.1	-	44.8	52.3	42.0	68.3	73.0	63.6
7/3/2016	6:40:00 PM	54.6	69.1	52.3	64.2	69.7	59.0	53.1	61.2	-	56.5	60.5	-	46.2	63.6	43.0	68.3	74.0	62.4
7/3/2016	6:41:00 PM	53.3	58.4	47.8	59.5	65.7	52.2	51.1	55.3	-	56.6	60.8	-	47.1	64.7	42.3	67.7	71.3	62.5
7/3/2016	6:42:00 PM	48.1	52.7	45.4	61.9	65.9	53.9	51.1	54.7	-	58.1	70.9	-	46.6	51.0	43.1	68.0	73.0	64.4
7/3/2016	6:43:00 PM	48.1	56.0	42.8	61.4	66.2	54.5	55.0	61.1	-	55.8	60.4	-	44.8	52.1	42.8	68.8	73.8	64.4
7/3/2016	6:44:00 PM	48.0	52.9	44.1	63.9	70.7	56.5	52.9	59.2	-	56.4	70.0	-	44.6	47.3	42.7	67.7	73.6	61.4
7/3/2016	6:45:00 PM	48.0	53.3	43.9	64.0	71.8	53.8	51.7	55.1	-	55.9	59.7	-	46.2	50.6	42.7	67.4	72.7	63.1
7/3/2016	6:46:00 PM	45.1	54.0	42.7	61.6	67.6	53.7	53.0	59.7	-	56.4	58.8	-	44.5	51.6	42.0	67.9	73.6	62.0
7/3/2016	6:47:00 PM	51.8	59.1	44.6	64.5	70.3	54.2	53.3	62.2	-	57.1	60.9	-	43.4	46.5	41.3	66.6	70.9	62.7
7/3/2016	6:48:00 PM	53.4	56.9	52.2	64.3	70.0	57.9	58.2	64.9	-	56.2	62.9	-	43.9	48.6	41.9	67.4	76.4	60.9
7/3/2016	6:49:00 PM	54.6	57.7	52.9	62.5	70.4	55.2	55.4	63.9	-	56.1	60.4	-	44.2	51.4	42.0	67.6	72.4	60.2
7/3/2016	6:50:00 PM	55.2	60.8	53.0	60.5	65.0	55.5	52.0	56.8	-	57.8	64.0	-	45.9	50.6	43.0	68.2	74.6	64.2
7/3/2016	6:51:00 PM	53.3	55.0	51.8	62.3	70.9	54.5	52.8	61.7	-	57.0	64.9	-	47.1	55.0	43.6	68.4	75.6	63.9
7/3/2016	6:52:00 PM	51.8	56.6	44.0	60.9	68.4	54.5	57.3	79.6	-	55.5	69.2	-	55.4	63.4	46.2	68.4	73.6	63.6
7/3/2016	6:53:00 PM	49.1	54.0	44.0	64.4	70.3	57.5	53.6	61.6	-	55.3	60.5	-	52.2	60.1	44.3	68.4	72.5	63.7
7/3/2016	6:54:00 PM	50.2	56.2	44.9	61.2	69.3	55.7	54.2	62.6	-	55.8	58.7	-	45.4	49.3	42.7	68.8	74.9	64.3
7/3/2016	6:55:00 PM	49.1	55.0	45.2	58.2	61.3	53.6	56.9	62.5	-	59.0	66.7	-	43.8	48.4	41.7	69.0	75.6	64.0
7/3/2016	6:56:00 PM	47.5	51.9	44.8	57.5	63.8	52.9	54.7	61.8	-	56.8	61.5	-	43.9	47.1	41.9	68.3	73.4	64.0
7/3/2016	6:57:00 PM	48.8	54.0	45.9	61.3	74.9	51.2	54.4	62.3	-	59.7	68.3	-	45.7	48.7	42.3	68.1	78.6	63.5
7/3/2016	6:58:00 PM	51.7	57.8	45.3	61.8	68.7	55.0	53.1	58.3	-	59.0	69.9	-	44.9	49.9	42.9	68.8	79.9	62.7
7/3/2016	6:59:00 PM	53.7	61.7	52.4	60.8	65.5	55.4	54.4	59.9	-	56.8	60.4	-	46.5	50.9	43.3	68.4	76.0	63.1
7/3/2016	7:00:00 PM	55.2	58.2	52.8	55.2	59.4	50.9	59.3	74.9	-	55.9	61.3	-	45.4	49.3	42.4	67.1	76.7	63.2
7/3/2016	7:01:00 PM	54.5	58.5	51.7	54.6	58.9	49.8	56.7	64.4	-	56.6	62.3	-	44.4	47.3	42.2	68.9	74.5	63.9
7/3/2016	7:02:00 PM	52.9	54.4	51.9	57.4	62.4	53.1	55.1	61.8	-	55.9	60.5	-	44.3	57.6	41.9	67.5	72.7	61.3
7/3/2016	7:03:00 PM	52.5	58.1	44.9	57.5	68.0	49.9	54.0	61.9	-	57.8	61.2	-	45.4	51.6	42.0	67.1	73.0	62.7
7/3/2016	7:04:00 PM	51.7	61.3	45.4	54.3	58.1	51.4	57.0	70.7	-	56.3	59.0	-	45.4	54.7	42.4	67.7	72.0	63.6
7/3/2016	7:05:00 PM	50.1	55.0	46.5	57.3	63.5	52.1	57.9	75.9	-	56.5	61.4	-	44.7	48.3	42.3	68.5	76.2	62.9
7/3/2016	7:06:00 PM	49.8	65.5	46.4	60.2	69.6	51.3	54.9	61.2	-	57.0	60.8	-	44.5	50.5	42.4	67.6	72.6	62.6
7/3/2016	7:07:00 PM	52.0	56.9	47.8	57.1	61.5	52.7	53.9	61.0	-	58.3	66.4	-	44.2	46.5	42.1	68.5	73.2	62.8
7/3/2016	7:08:00 PM	52.3	56.3	48.9	58.5	66.6	53.0	49.5	51.9	-	56.6	59.5	-	43.9	46.6	41.7	67.2	73.4	60.7
7/3/2016	7:09:00 PM	50.1	53.7	45.1	58.1	63.7	50.6	50.8	59.1	-	56.6	60.2	-	44.0	47.0	42.2	67.1	71.4	61.7
7/3/2016	7:10:00 PM	53.4	57.6	46.6	54.9	63.2	50.4	54.7	61.6	-	56.5	63.6	-	44.4	46.8	42.3	67.5	72.0	62.1
7/3/2016	7:11:00 PM	53.8	55.4	52.5	54.9	62.1	50.3	55.0	72.4	-	56.4	59.7	-	44.7	47.7	42.6	68.3	72.2	63.8
7/3/2016	7:12:00 PM	54.2	58.1	52.4	58.9	67.6	51.2	54.4	72.2	-	57.2	63.0	-	46.7	51.0	43.2	68.8	74.8	62.7
7/3/2016	7:13:00 PM	54.2	62.2	52.0	57.7	66.2	50.4	51.5	56.7	-	56.7	60.8	-	45.1	48.9	42.6	69.1	75.0	62.2
7/3/2016	7:14:00 PM	54.0	56.3	51.9	57.0	66.3	49.2	55.9	66.1	-	56.5	60.4	-	45.0	54.2	42.9	68.3	73.0	62.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	7:15:00 PM	47.6	56.5	43.9	62.2	71.8	49.0	53.7	58.6	-	56.8	59.9	-	44.7	48.3	42.6	68.7	73.3	64.4
7/3/2016	7:16:00 PM	61.6	75.9	43.7	53.4	58.9	49.9	55.5	69.6	-	56.8	60.1	-	44.5	48.1	42.2	68.3	78.2	63.2
7/3/2016	7:17:00 PM	59.0	75.5	45.4	55.0	58.7	49.4	52.5	57.6	-	56.9	59.8	-	46.0	50.5	42.7	69.2	76.0	63.6
7/3/2016	7:18:00 PM	50.5	74.4	44.6	50.5	55.0	48.6	51.9	55.9	-	57.0	62.1	-	46.6	50.5	43.3	67.6	74.8	61.3
7/3/2016	7:19:00 PM	49.2	57.9	44.3	60.7	72.0	48.3	53.0	57.9	-	56.7	61.6	-	45.3	49.1	42.7	67.5	75.2	61.8
7/3/2016	7:20:00 PM	49.9	54.1	45.8	55.2	64.1	51.4	51.9	63.7	-	56.7	64.8	-	45.1	51.0	42.7	68.4	78.0	61.5
7/3/2016	7:21:00 PM	55.0	59.8	49.2	59.3	69.2	49.0	53.0	57.1	-	57.1	68.1	-	45.6	48.8	43.4	67.6	73.7	60.6
7/3/2016	7:22:00 PM	55.0	58.3	52.9	55.3	65.5	50.0	52.7	56.9	-	57.6	63.2	-	45.1	48.3	42.6	67.8	74.0	61.5
7/3/2016	7:23:00 PM	55.4	61.6	53.7	60.5	69.4	50.7	53.5	58.7	-	58.8	63.8	-	45.1	48.5	42.7	68.1	72.2	63.6
7/3/2016	7:24:00 PM	54.9	59.1	53.5	61.3	66.0	51.1	51.4	54.8	-	59.0	67.9	-	45.1	48.6	42.8	67.0	72.2	62.4
7/3/2016	7:25:00 PM	54.4	57.6	53.1	59.5	64.2	53.8	51.9	62.7	-	56.5	62.4	-	46.4	49.5	43.1	66.0	70.1	60.8
7/3/2016	7:26:00 PM	50.4	56.4	44.8	60.2	64.8	53.4	54.8	61.1	-	56.7	68.1	-	45.5	49.6	43.1	67.2	72.0	61.8
7/3/2016	7:27:00 PM	50.8	58.8	45.2	57.2	68.1	50.0	57.0	63.2	-	57.2	64.1	-	45.1	47.5	42.7	68.3	74.6	63.1
7/3/2016	7:28:00 PM	47.9	57.9	43.4	54.7	58.0	51.7	52.6	57.2	-	56.9	61.8	-	45.5	48.5	43.2	67.5	74.3	58.9
7/3/2016	7:29:00 PM	48.1	54.3	43.2	52.7	58.1	49.0	51.9	57.0	-	56.4	62.1	-	45.3	49.0	43.3	67.2	73.9	61.6
7/3/2016	7:30:00 PM	46.8	52.9	41.6	60.0	70.0	48.0	52.6	57.6	-	55.6	61.2	-	45.4	50.3	42.9	68.5	73.2	63.1
7/3/2016	7:31:00 PM	45.1	53.2	41.4	55.5	67.2	49.7	54.4	59.1	-	56.8	61.2	-	45.3	49.8	43.0	67.3	71.4	60.9
7/3/2016	7:32:00 PM	49.6	57.8	42.3	51.6	58.8	48.6	54.9	62.1	-	58.2	68.0	-	45.9	51.2	42.9	68.1	73.7	61.9
7/3/2016	7:33:00 PM	53.5	58.5	52.4	52.7	63.2	47.7	52.6	58.7	-	57.1	62.7	-	45.2	48.7	42.8	67.1	74.5	61.5
7/3/2016	7:34:00 PM	53.9	58.8	52.3	49.1	51.8	47.3	53.6	58.8	-	57.8	67.7	-	45.2	48.0	43.0	67.4	75.3	60.6
7/3/2016	7:35:00 PM	55.0	63.5	53.2	48.7	50.9	47.0	52.7	58.1	-	57.0	60.0	-	45.4	48.3	43.5	68.3	73.5	61.8
7/3/2016	7:36:00 PM	55.5	61.2	53.4	49.0	52.0	47.3	53.0	58.6	-	55.9	60.3	-	45.5	47.9	43.6	68.2	73.9	64.2
7/3/2016	7:37:00 PM	54.0	64.5	44.9	50.3	54.9	48.0	53.2	58.1	-	56.6	64.0	-	45.7	50.4	43.8	68.5	74.7	62.7
7/3/2016	7:38:00 PM	58.0	78.4	43.8	59.2	71.4	48.5	51.1	56.8	-	56.5	61.3	-	46.0	48.6	43.6	69.4	83.5	61.5
7/3/2016	7:39:00 PM	51.4	67.4	44.2	59.7	70.3	53.4	50.3	55.3	-	57.9	66.7	-	45.7	58.2	43.5	68.4	78.9	62.1
7/3/2016	7:40:00 PM	57.0	76.7	43.7	57.9	62.9	54.0	51.7	59.3	-	57.6	63.4	-	45.5	49.2	43.3	68.1	72.8	63.8
7/3/2016	7:41:00 PM	47.6	54.3	43.4	60.4	72.7	50.8	51.8	56.9	-	55.9	60.5	-	46.3	52.7	43.4	69.0	79.9	62.4
7/3/2016	7:42:00 PM	48.1	61.4	42.3	50.5	57.6	48.6	53.0	62.2	-	56.5	59.3	-	46.2	50.4	43.6	68.2	79.0	60.3
7/3/2016	7:43:00 PM	49.2	58.4	42.6	52.0	63.0	47.9	55.4	62.0	-	55.9	60.4	-	46.3	49.8	43.8	68.3	74.6	61.7
7/3/2016	7:44:00 PM	54.2	59.3	45.5	50.8	59.0	48.4	51.9	59.2	-	64.0	72.0	-	47.1	52.0	43.8	68.5	75.6	63.4
7/3/2016	7:45:00 PM	54.3	61.6	52.1	59.9	68.1	49.1	51.7	58.8	-	57.9	60.9	-	48.1	53.0	44.8	68.7	75.7	62.5
7/3/2016	7:46:00 PM	54.3	55.9	53.1	59.0	65.6	51.6	50.6	54.7	-	56.6	60.2	-	46.2	49.0	43.3	68.5	73.3	62.6
7/3/2016	7:47:00 PM	55.6	61.3	52.8	57.9	66.1	50.6	50.4	53.8	-	58.2	64.0	-	45.9	49.3	43.7	67.9	74.1	61.1
7/3/2016	7:48:00 PM	53.2	57.7	45.3	58.6	68.3	50.4	51.4	55.4	-	56.2	61.8	-	45.6	48.9	43.3	67.7	72.4	60.8
7/3/2016	7:49:00 PM	47.8	56.3	43.7	60.8	70.7	51.1	50.5	56.5	-	56.8	62.5	-	45.6	48.2	43.7	67.5	73.8	61.5
7/3/2016	7:50:00 PM	50.8	66.1	43.1	58.7	69.1	49.7	52.3	58.1	-	57.3	66.9	-	45.8	49.0	43.1	67.9	73.3	62.9
7/3/2016	7:51:00 PM	50.0	58.9	45.2	50.2	53.4	47.7	51.5	55.4	-	57.0	60.8	-	45.7	52.6	43.4	67.2	71.9	62.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	7:52:00 PM	46.8	53.1	42.9	49.0	51.1	46.8	55.6	63.6	-	57.7	62.2	-	45.6	48.8	43.3	68.4	72.9	62.7
7/3/2016	7:53:00 PM	45.7	53.0	41.8	47.9	50.1	46.2	53.2	58.4	-	57.9	62.1	-	45.7	48.3	43.9	68.7	76.6	63.9
7/3/2016	7:54:00 PM	47.3	52.7	42.9	49.2	59.6	45.9	51.6	55.5	-	56.9	61.9	-	46.3	49.6	44.0	68.2	75.8	59.4
7/3/2016	7:55:00 PM	47.6	57.4	43.2	48.1	50.5	45.8	51.9	57.9	-	57.1	63.6	-	46.5	53.2	43.5	69.6	74.3	63.0
7/3/2016	7:56:00 PM	54.2	58.3	52.7	48.5	50.6	46.7	51.3	61.7	-	58.2	61.7	-	45.1	48.2	43.1	67.8	72.9	62.7
7/3/2016	7:57:00 PM	53.5	55.5	52.3	52.9	64.5	46.4	51.7	55.6	-	60.2	70.2	-	44.9	47.6	42.4	68.6	75.9	62.9
7/3/2016	7:58:00 PM	54.3	56.5	52.4	49.3	51.2	47.5	50.8	56.3	-	58.0	62.0	-	45.3	48.7	43.0	67.1	72.8	59.2
7/3/2016	7:59:00 PM	55.7	60.7	53.6	50.7	61.8	47.9	51.1	55.4	-	57.1	61.2	-	45.6	48.6	43.0	68.0	74.0	62.2
7/3/2016	8:00:00 PM	51.5	58.3	44.7	55.6	64.6	49.0	51.8	58.3	-	56.7	58.9	-	45.6	58.2	43.5	67.3	76.0	59.2
7/3/2016	8:01:00 PM	50.9	57.7	44.8	54.1	65.4	48.9	52.9	68.1	-	56.7	60.1	-	45.7	49.1	43.1	67.3	72.7	61.7
7/3/2016	8:02:00 PM	48.9	53.9	44.2	58.9	67.6	49.3	53.5	61.5	-	58.1	64.2	-	45.3	47.9	43.0	67.9	73.7	61.6
7/3/2016	8:03:00 PM	48.0	59.6	42.4	54.6	65.6	50.1	54.3	60.9	-	56.4	65.9	-	45.0	48.1	42.7	67.7	73.3	60.6
7/3/2016	8:04:00 PM	50.5	57.6	43.3	60.0	69.7	49.5	57.2	65.1	-	56.1	59.9	-	45.0	48.0	43.0	67.8	74.2	59.8
7/3/2016	8:05:00 PM	58.8	68.8	44.7	58.8	67.3	51.5	57.3	63.0	-	56.5	61.2	-	45.2	48.2	42.9	68.1	72.4	61.6
7/3/2016	8:06:00 PM	64.5	72.8	46.2	55.3	61.6	50.7	57.3	63.3	-	56.6	60.3	-	44.8	48.3	42.7	67.6	74.8	60.2
7/3/2016	8:07:00 PM	51.4	58.5	41.6	62.9	73.2	51.8	56.4	63.3	-	58.8	63.3	-	45.0	47.8	43.2	67.4	76.7	59.7
7/3/2016	8:08:00 PM	53.3	58.3	41.9	55.7	60.1	52.2	58.5	66.6	-	56.6	61.1	-	44.8	48.7	42.9	69.1	75.3	62.1
7/3/2016	8:09:00 PM	53.6	55.5	52.0	53.3	58.9	49.5	59.1	64.1	-	56.5	59.5	-	44.6	49.1	42.1	68.0	75.6	59.2
7/3/2016	8:10:00 PM	53.8	54.9	52.8	53.3	58.6	49.3	59.5	64.4	-	56.0	61.1	-	45.0	51.1	42.4	68.1	79.1	58.6
7/3/2016	8:11:00 PM	53.7	54.9	52.7	50.9	56.5	48.6	55.1	61.7	-	56.4	60.2	-	44.9	48.9	42.6	66.8	73.7	60.0
7/3/2016	8:12:00 PM	52.3	56.5	44.2	53.2	65.3	48.6	58.0	65.6	-	57.3	62.6	-	45.2	49.5	42.4	67.6	72.3	62.9
7/3/2016	8:13:00 PM	45.6	49.6	42.8	55.2	61.7	49.8	57.0	64.2	-	57.0	59.7	-	45.1	48.9	42.7	67.8	74.6	62.5
7/3/2016	8:14:00 PM	51.5	66.5	43.2	53.1	64.5	50.0	57.8	65.0	-	57.0	62.4	-	44.5	47.1	42.2	67.5	72.7	60.6
7/3/2016	8:15:00 PM	53.4	67.9	43.0	56.9	66.8	48.9	52.4	60.0	-	56.3	59.0	-	44.3	47.9	42.1	67.7	71.9	62.4
7/3/2016	8:16:00 PM	50.1	58.4	42.6	57.0	66.5	50.1	59.0	65.3	-	57.2	60.4	-	44.8	48.1	42.7	67.1	72.7	59.7
7/3/2016	8:17:00 PM	52.6	64.3	41.8	54.8	62.1	50.7	59.8	65.7	-	58.2	68.1	-	44.4	47.7	41.6	68.2	72.9	62.2
7/3/2016	8:18:00 PM	47.5	55.0	43.9	52.7	59.6	49.4	57.8	66.1	-	56.7	60.9	-	44.5	47.0	42.6	67.4	73.3	61.6
7/3/2016	8:19:00 PM	48.3	52.8	43.2	53.6	60.7	49.6	54.7	63.1	-	55.4	59.6	-	44.5	47.1	42.4	66.2	73.1	60.0
7/3/2016	8:20:00 PM	49.5	57.8	43.1	51.2	58.3	48.6	59.6	65.3	-	55.2	58.2	-	44.6	46.7	42.3	66.9	73.1	58.8
7/3/2016	8:21:00 PM	53.9	58.4	50.4	52.2	55.6	48.8	59.3	65.9	-	56.0	60.2	-	45.2	50.4	42.2	68.7	76.5	60.1
7/3/2016	8:22:00 PM	54.0	59.6	52.3	55.0	63.3	50.1	59.3	65.2	-	57.8	62.2	-	45.7	51.3	41.8	67.0	73.1	57.3
7/3/2016	8:23:00 PM	55.3	65.5	53.0	54.7	61.8	50.6	59.0	65.8	-	57.7	60.9	-	43.9	47.7	41.9	67.4	73.8	58.7
7/3/2016	8:24:00 PM	54.8	58.4	53.2	56.1	61.5	51.4	58.8	65.0	-	56.6	59.6	-	44.0	47.2	42.0	65.7	71.1	58.9
7/3/2016	8:25:00 PM	50.5	57.9	43.2	58.0	62.6	52.6	55.3	66.9	-	56.3	58.7	-	43.8	46.0	42.0	69.0	74.1	61.3
7/3/2016	8:26:00 PM	47.9	59.7	42.7	54.0	59.0	51.1	59.7	64.6	-	55.0	58.1	-	44.3	47.6	42.0	67.6	73.6	60.5
7/3/2016	8:27:00 PM	50.6	60.4	43.7	54.0	59.8	50.1	60.4	68.1	-	56.4	63.5	-	44.9	49.5	42.8	67.7	74.3	59.4
7/3/2016	8:28:00 PM	46.6	55.7	40.5	55.7	60.3	52.5	54.4	65.3	-	56.0	60.1	-	45.1	47.9	42.8	67.9	73.8	62.1

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	8:29:00 PM	49.8	56.2	41.9	59.5	68.0	51.9	56.8	63.9	-	57.1	63.2	-	44.1	47.9	41.7	67.8	72.7	59.1
7/3/2016	8:30:00 PM	61.2	76.3	42.8	53.3	59.7	47.7	59.1	69.1	-	57.2	61.5	-	43.9	46.2	41.7	67.7	73.3	57.8
7/3/2016	8:31:00 PM	49.7	56.7	43.1	50.9	53.4	48.0	60.2	68.0	-	56.4	59.2	-	43.8	46.8	41.4	66.3	72.4	58.8
7/3/2016	8:32:00 PM	50.3	59.4	40.7	50.5	54.1	48.4	58.2	65.3	-	56.8	60.8	-	44.0	46.5	42.2	66.5	73.4	58.8
7/3/2016	8:33:00 PM	49.7	57.1	43.0	49.9	51.9	48.3	59.9	66.4	-	57.7	64.8	-	44.5	47.3	42.2	66.8	71.6	60.5
7/3/2016	8:34:00 PM	53.9	58.0	44.8	50.1	52.9	48.3	53.1	63.6	-	56.9	62.8	-	45.1	47.9	42.0	68.4	74.8	61.7
7/3/2016	8:35:00 PM	53.5	55.8	52.0	49.9	62.8	47.9	52.2	61.8	-	58.0	64.6	-	44.4	46.9	42.0	68.2	74.8	59.9
7/3/2016	8:36:00 PM	54.2	56.0	52.9	49.3	54.0	47.5	58.0	62.8	-	56.8	62.3	-	44.8	48.4	42.1	67.8	75.2	57.0
7/3/2016	8:37:00 PM	54.3	58.9	50.6	49.5	51.9	47.0	58.2	66.4	-	56.4	59.4	-	44.5	55.5	42.1	68.2	74.1	60.2
7/3/2016	8:38:00 PM	50.0	56.7	43.1	48.1	55.4	46.3	59.0	64.4	-	57.4	62.0	-	44.1	46.5	41.4	68.0	74.9	62.0
7/3/2016	8:39:00 PM	45.5	53.3	40.4	47.9	51.2	46.2	58.4	65.2	-	56.8	64.0	-	44.3	49.7	41.4	66.1	70.7	60.2
7/3/2016	8:40:00 PM	49.9	60.1	42.3	48.5	54.3	46.4	58.2	64.9	-	58.7	69.8	-	44.2	48.2	41.1	66.7	71.3	58.6
7/3/2016	8:41:00 PM	45.8	55.5	41.7	50.1	52.5	46.8	55.7	65.6	-	57.1	68.0	-	44.4	47.7	41.9	67.1	72.3	57.4
7/3/2016	8:42:00 PM	46.2	55.3	41.1	52.1	56.8	48.9	52.5	62.9	-	58.2	70.5	-	44.3	48.9	41.8	66.4	72.1	59.7
7/3/2016	8:43:00 PM	49.6	54.1	43.3	51.2	56.7	48.5	58.4	64.7	-	57.1	63.5	-	43.9	47.2	41.5	67.0	71.6	59.2
7/3/2016	8:44:00 PM	50.3	57.5	42.8	54.9	65.4	47.5	57.7	64.4	-	63.0	74.4	-	49.2	57.0	42.4	66.3	71.4	58.6
7/3/2016	8:45:00 PM	48.3	53.8	41.8	49.4	53.3	48.1	56.9	65.2	-	56.3	59.1	-	55.4	64.7	43.1	66.1	71.0	59.7
7/3/2016	8:46:00 PM	47.9	57.9	41.2	52.3	60.5	48.4	53.0	61.4	-	56.0	58.5	-	43.9	48.8	41.4	67.9	73.7	58.1
7/3/2016	8:47:00 PM	53.5	57.2	52.5	49.9	52.1	47.8	62.3	82.6	-	55.9	58.7	-	44.8	51.4	41.7	66.8	72.5	59.4
7/3/2016	8:48:00 PM	53.6	56.3	52.3	64.0	74.4	46.5	58.5	65.0	-	57.1	61.9	-	45.4	53.4	42.6	67.6	74.5	59.6
7/3/2016	8:49:00 PM	53.7	54.7	52.6	52.0	58.9	47.3	58.3	68.1	-	55.8	60.4	-	45.9	51.2	43.3	67.6	72.4	59.5
7/3/2016	8:50:00 PM	54.7	59.0	44.3	49.4	52.6	47.1	52.8	72.1	-	56.3	59.4	-	44.9	48.1	42.3	67.3	74.0	57.8
7/3/2016	8:51:00 PM	44.8	53.9	41.3	49.5	56.3	47.5	51.9	60.6	-	55.1	57.8	-	44.8	54.1	42.2	67.7	74.5	60.8
7/3/2016	8:52:00 PM	44.5	56.8	42.0	50.3	53.4	48.2	58.6	64.4	-	54.6	61.0	-	44.0	48.4	42.0	66.9	74.7	58.7
7/3/2016	8:53:00 PM	44.5	50.3	40.7	54.5	60.4	50.6	58.2	64.5	-	55.7	58.7	-	45.0	49.3	42.6	68.9	78.1	62.6
7/3/2016	8:54:00 PM	43.2	47.6	40.6	52.1	55.4	49.7	57.7	62.8	-	56.9	62.0	-	45.7	49.5	43.5	67.7	73.3	61.7
7/3/2016	8:55:00 PM	46.1	58.9	41.4	51.8	56.1	49.3	57.7	62.7	-	57.4	61.5	-	46.0	55.4	43.3	67.9	73.8	60.7
7/3/2016	8:56:00 PM	44.8	49.8	41.5	51.4	56.4	48.9	58.0	62.3	-	55.8	66.7	-	47.0	56.3	42.8	68.1	78.6	61.0
7/3/2016	8:57:00 PM	45.8	49.8	42.1	59.5	68.4	48.9	57.0	65.6	-	58.1	69.6	-	46.2	51.9	43.4	67.1	72.3	59.8
7/3/2016	8:58:00 PM	46.1	49.7	42.3	52.7	58.5	48.4	57.2	65.6	-	55.3	66.6	-	45.3	51.7	42.3	66.7	71.7	58.6
7/3/2016	8:59:00 PM	47.2	51.8	41.9	49.4	53.5	46.8	51.8	59.4	-	55.5	64.1	-	44.0	47.6	41.1	67.6	71.8	62.0
7/3/2016	9:00:00 PM	53.6	58.2	43.5	48.1	51.5	46.1	51.5	58.1	-	56.8	65.3	-	43.8	52.0	41.2	67.8	73.7	60.3
7/3/2016	9:01:00 PM	54.5	59.2	52.1	49.9	53.2	47.0	51.3	53.8	-	57.5	68.3	-	43.4	48.1	41.5	67.7	73.1	58.9
7/3/2016	9:02:00 PM	54.2	60.2	52.3	53.6	61.8	48.4	50.9	54.1	-	55.5	61.9	-	43.9	47.2	41.0	68.6	75.1	59.5
7/3/2016	9:03:00 PM	54.6	56.7	53.0	52.9	58.8	47.2	50.9	55.2	-	56.4	65.4	-	44.8	48.2	42.3	68.1	77.0	62.5
7/3/2016	9:04:00 PM	46.2	54.7	41.1	51.9	56.1	48.7	52.0	59.7	-	54.6	58.1	-	45.1	53.4	42.4	69.5	80.5	62.2
7/3/2016	9:05:00 PM	44.4	51.0	40.1	54.4	64.6	48.3	52.7	57.6	-	54.0	56.9	-	44.7	56.1	42.4	68.8	76.4	59.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	9:06:00 PM	42.3	45.1	40.1	54.2	64.8	48.9	52.6	63.8	-	57.1	69.2	-	45.0	50.4	41.7	67.9	73.3	61.6
7/3/2016	9:07:00 PM	46.2	51.4	41.0	52.7	55.8	49.2	50.6	62.1	-	54.5	57.7	-	44.4	53.4	41.1	67.0	72.0	59.2
7/3/2016	9:08:00 PM	45.8	53.0	41.4	54.1	62.4	46.6	50.8	58.7	-	57.0	63.6	-	44.4	48.1	41.6	65.7	71.8	60.7
7/3/2016	9:09:00 PM	44.7	48.8	40.9	60.0	68.9	46.9	55.2	61.2	-	55.9	59.1	-	44.2	46.8	41.8	68.9	75.6	61.2
7/3/2016	9:10:00 PM	44.5	51.2	41.2	54.1	63.7	46.8	58.0	65.4	-	56.9	68.4	-	43.9	47.8	41.4	67.8	78.1	59.8
7/3/2016	9:11:00 PM	45.1	50.8	41.4	48.2	50.5	45.9	60.1	64.7	-	55.5	60.2	-	44.9	56.2	41.8	67.8	74.6	62.0
7/3/2016	9:12:00 PM	44.3	48.9	40.1	49.8	56.5	46.6	59.1	66.1	-	56.4	60.9	-	45.1	60.5	41.7	67.7	76.8	60.7
7/3/2016	9:13:00 PM	50.9	58.7	39.1	53.1	64.1	45.9	58.3	65.4	-	56.5	67.5	-	44.0	47.9	41.3	67.8	73.5	61.5
7/3/2016	9:14:00 PM	53.6	56.1	52.4	48.1	53.1	45.6	61.6	66.0	-	58.6	73.6	-	44.7	56.1	42.2	68.7	73.5	61.7
7/3/2016	9:15:00 PM	53.8	55.6	52.3	51.7	61.4	46.8	61.4	66.6	-	54.1	57.4	-	43.9	52.6	42.0	66.7	73.5	60.6
7/3/2016	9:16:00 PM	54.1	55.3	53.2	49.2	51.8	46.2	61.2	65.9	-	53.3	56.3	-	43.6	54.1	40.9	68.1	74.6	60.2
7/3/2016	9:17:00 PM	50.9	57.7	41.7	61.7	70.1	46.2	60.4	67.9	-	54.6	58.5	-	44.2	56.3	41.1	68.6	78.4	59.4
7/3/2016	9:18:00 PM	44.8	52.0	40.2	52.5	64.7	48.1	61.8	67.3	-	55.0	58.7	-	43.3	46.3	40.9	68.5	75.4	62.1
7/3/2016	9:19:00 PM	48.6	61.3	41.5	55.0	63.5	48.2	61.2	66.9	-	55.6	58.8	-	43.3	54.1	40.1	67.8	73.9	61.0
7/3/2016	9:20:00 PM	44.9	52.0	41.5	61.8	68.1	52.2	52.1	62.7	-	55.9	61.9	-	43.8	52.4	41.1	67.1	74.2	61.4
7/3/2016	9:21:00 PM	46.3	52.0	41.7	55.9	62.2	50.4	60.1	66.0	-	55.9	61.2	-	43.6	47.2	40.9	68.3	74.3	61.0
7/3/2016	9:22:00 PM	47.4	68.4	41.4	50.3	56.2	46.8	61.3	65.0	-	54.5	58.2	-	44.0	54.1	41.2	68.3	75.0	63.0
7/3/2016	9:23:00 PM	50.6	73.4	41.3	48.5	52.2	46.2	60.8	65.4	-	54.2	58.2	-	46.1	54.5	42.2	68.9	76.1	61.9
7/3/2016	9:24:00 PM	74.6	99.9	43.0	49.3	60.3	46.5	60.5	65.8	-	53.8	56.6	-	43.9	48.7	41.4	70.4	85.4	60.2
7/3/2016	9:25:00 PM	45.4	49.5	41.5	53.2	63.9	47.2	61.3	67.3	-	53.7	56.5	-	44.5	61.0	41.6	68.1	74.1	61.2
7/3/2016	9:26:00 PM	47.0	57.4	40.9	51.2	60.7	47.2	62.6	66.7	-	54.7	59.2	-	45.9	56.8	42.1	68.4	73.0	63.4
7/3/2016	9:27:00 PM	54.0	58.6	52.8	53.4	61.2	46.7	61.0	65.8	-	55.4	59.1	-	43.2	48.9	41.1	68.4	72.4	62.5
7/3/2016	9:28:00 PM	53.7	56.1	52.3	52.9	62.8	47.3	59.7	66.7	-	56.0	59.0	-	43.5	47.9	41.1	67.8	73.6	60.8
7/3/2016	9:29:00 PM	53.9	55.2	52.2	49.3	52.9	46.9	52.6	59.5	-	55.8	58.4	-	43.5	46.5	40.9	67.3	72.5	61.1
7/3/2016	9:30:00 PM	54.2	57.4	46.5	48.3	50.9	46.6	56.2	65.2	-	55.4	59.0	-	44.0	53.1	41.3	66.7	71.0	58.6
7/3/2016	9:31:00 PM	49.5	69.6	42.1	54.2	66.6	48.1	60.6	68.4	-	55.6	71.0	-	44.0	51.7	41.3	67.8	75.7	55.8
7/3/2016	9:32:00 PM	43.9	48.6	40.9	51.5	55.3	49.2	60.4	66.1	-	54.3	59.1	-	44.3	49.4	41.7	67.2	72.5	59.9
7/3/2016	9:33:00 PM	43.6	49.5	40.0	52.3	55.6	49.6	60.4	65.5	-	54.6	57.9	-	44.2	46.9	41.8	67.7	72.6	61.1
7/3/2016	9:34:00 PM	43.3	51.9	39.2	49.0	53.7	46.5	60.2	64.7	-	57.9	68.9	-	44.2	48.6	41.7	67.0	73.1	59.5
7/3/2016	9:35:00 PM	42.1	47.7	38.6	48.5	53.2	46.5	61.5	65.1	-	55.0	58.8	-	43.4	46.8	40.7	67.3	73.1	61.1
7/3/2016	9:36:00 PM	43.8	49.3	40.2	54.7	64.8	48.5	62.3	66.8	-	55.7	64.4	-	44.0	49.2	41.3	67.8	74.1	60.9
7/3/2016	9:37:00 PM	43.3	49.5	39.7	59.2	69.1	49.2	57.8	65.2	-	57.4	65.8	-	44.2	48.3	41.7	66.3	74.2	59.1
7/3/2016	9:38:00 PM	41.3	43.9	39.1	56.1	66.3	48.8	54.4	64.5	-	55.5	58.7	-	44.0	48.6	41.8	67.8	73.3	59.8
7/3/2016	9:39:00 PM	44.9	52.8	41.1	63.1	75.7	47.5	59.4	67.8	-	54.7	59.3	-	44.0	48.2	41.3	65.6	72.4	58.7
7/3/2016	9:40:00 PM	52.8	57.7	39.8	67.0	77.3	51.0	61.9	76.7	-	55.0	59.4	-	44.3	53.8	41.2	65.9	71.7	57.3
7/3/2016	9:41:00 PM	55.3	61.8	53.1	52.1	67.7	45.4	58.5	71.1	-	55.7	61.6	-	44.7	48.1	41.6	67.2	74.0	58.9
7/3/2016	9:42:00 PM	55.4	60.7	53.2	48.7	59.6	45.4	62.5	78.6	-	55.6	60.6	-	44.7	47.6	42.2	67.4	73.5	60.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	9:43:00 PM	54.2	57.5	52.9	51.4	64.4	46.7	61.3	65.8	-	55.5	61.3	-	44.6	47.2	41.8	67.0	73.6	58.9
7/3/2016	9:44:00 PM	49.9	64.3	40.7	48.3	49.9	46.6	60.2	65.7	-	55.3	59.8	-	44.0	48.1	41.9	66.6	72.7	59.7
7/3/2016	9:45:00 PM	46.3	69.2	40.6	48.6	51.1	46.7	61.9	67.7	-	57.4	75.9	-	47.4	54.8	42.1	66.5	72.9	59.6
7/3/2016	9:46:00 PM	41.0	43.9	38.6	49.6	52.9	46.6	62.1	69.6	-	56.0	60.0	-	49.1	55.2	42.6	65.7	72.0	57.7
7/3/2016	9:47:00 PM	46.5	57.7	39.4	53.4	60.0	48.7	62.3	67.5	-	56.7	64.0	-	44.2	47.5	41.6	66.9	71.9	60.2
7/3/2016	9:48:00 PM	44.4	52.6	39.1	56.7	67.5	46.8	60.9	68.6	-	56.0	60.4	-	43.8	47.3	41.2	67.6	74.0	60.0
7/3/2016	9:49:00 PM	43.4	57.7	39.0	65.4	74.0	46.6	55.5	62.2	-	55.0	60.0	-	44.2	46.9	41.1	68.8	75.1	62.3
7/3/2016	9:50:00 PM	43.7	62.5	39.1	55.7	64.0	48.3	58.2	63.7	-	56.1	61.8	-	43.8	48.0	41.1	68.2	77.2	62.0
7/3/2016	9:51:00 PM	47.6	55.9	41.4	55.6	72.7	47.7	58.7	64.7	-	54.4	61.5	-	43.9	47.3	41.2	66.7	72.6	58.9
7/3/2016	9:52:00 PM	43.1	56.3	38.5	51.7	65.1	47.1	57.4	63.6	-	54.9	62.2	-	43.8	47.2	41.0	68.3	73.8	58.4
7/3/2016	9:53:00 PM	50.6	59.1	38.1	53.9	69.7	47.9	59.9	64.8	-	54.1	59.2	-	43.2	47.1	41.2	66.6	72.7	57.4
7/3/2016	9:54:00 PM	53.7	58.9	51.8	51.4	62.7	48.1	56.8	63.3	-	54.9	60.0	-	43.3	46.4	41.3	67.1	72.7	58.3
7/3/2016	9:55:00 PM	53.5	56.4	52.0	52.7	65.8	46.9	57.0	63.8	-	54.8	62.0	-	46.8	52.8	41.8	67.0	76.2	56.9
7/3/2016	9:56:00 PM	53.9	55.7	52.7	48.8	52.5	46.2	60.9	64.8	-	55.6	65.7	-	44.0	48.9	41.2	66.9	71.7	58.3
7/3/2016	9:57:00 PM	51.8	58.3	41.0	49.5	52.2	47.3	60.6	64.4	-	55.8	64.3	-	43.4	47.6	41.2	67.7	73.5	59.7
7/3/2016	9:58:00 PM	41.3	46.5	38.1	50.1	53.4	47.1	60.2	65.1	-	57.0	70.9	-	43.5	46.8	40.8	66.4	72.7	58.4
7/3/2016	9:59:00 PM	42.5	49.8	38.6	49.5	52.2	47.6	61.7	65.9	-	57.0	71.4	-	43.4	46.4	41.1	66.8	72.2	59.2
7/3/2016	10:00:00 PM	43.9	54.8	37.2	49.0	52.6	46.0	60.9	64.8	-	55.9	63.6	-	43.9	46.8	40.2	66.8	72.3	54.9
7/3/2016	10:01:00 PM	54.4	66.5	38.5	54.2	59.2	49.3	60.8	65.2	-	55.7	69.2	-	45.7	53.7	41.6	67.8	72.6	61.2
7/3/2016	10:02:00 PM	42.1	50.5	38.7	57.7	62.6	50.8	60.7	65.0	-	53.8	64.8	-	44.8	48.0	42.2	66.0	71.6	59.8
7/3/2016	10:03:00 PM	45.0	57.6	39.3	57.2	62.3	49.1	61.2	65.5	-	56.0	65.4	-	45.0	49.7	41.9	67.6	74.3	58.6
7/3/2016	10:04:00 PM	49.2	67.3	38.3	53.8	58.2	48.8	61.1	64.5	-	56.3	67.5	-	42.9	46.2	40.5	67.0	74.3	57.6
7/3/2016	10:05:00 PM	42.1	47.9	38.0	51.6	54.6	48.4	59.6	64.7	-	56.0	70.3	-	43.1	48.1	40.6	67.8	72.3	62.7
7/3/2016	10:06:00 PM	47.1	56.6	39.8	50.2	53.5	47.6	55.4	61.3	-	54.9	62.2	-	43.9	57.9	40.5	67.1	73.4	57.9
7/3/2016	10:07:00 PM	53.9	57.4	52.6	50.7	55.2	45.8	60.9	65.4	-	56.2	64.0	-	44.1	47.1	40.8	65.6	71.4	58.3
7/3/2016	10:08:00 PM	53.5	62.8	51.7	64.6	75.2	50.8	60.0	64.9	-	55.7	67.4	-	52.8	62.1	43.7	66.9	73.0	58.7
7/3/2016	10:09:00 PM	54.1	56.5	52.6	50.7	55.0	47.2	61.0	66.1	-	56.0	64.4	-	57.3	66.6	41.4	67.6	74.0	60.3
7/3/2016	10:10:00 PM	52.8	57.0	41.1	48.0	49.7	46.1	60.7	64.8	-	56.5	67.0	-	45.3	51.6	40.8	67.0	73.4	59.7
7/3/2016	10:11:00 PM	42.8	47.2	38.5	48.4	53.1	46.1	59.7	64.2	-	54.2	65.3	-	44.9	51.8	41.4	67.3	74.2	60.1
7/3/2016	10:12:00 PM	42.6	48.2	39.3	49.5	53.4	47.2	60.0	65.4	-	53.1	61.5	-	45.7	54.2	42.0	66.8	74.9	60.2
7/3/2016	10:13:00 PM	45.5	52.4	41.8	49.5	51.8	47.1	59.6	64.8	-	52.2	58.7	-	43.2	47.3	40.5	67.1	73.6	60.1
7/3/2016	10:14:00 PM	46.5	50.8	41.7	54.1	63.2	48.7	60.1	67.1	-	51.3	57.0	-	43.7	46.1	41.6	67.2	75.2	61.3
7/3/2016	10:15:00 PM	41.6	45.7	38.9	51.4	55.5	48.1	53.6	62.2	-	52.5	62.4	-	44.1	47.0	41.7	67.8	75.1	59.6
7/3/2016	10:16:00 PM	45.0	54.3	39.8	51.5	55.7	47.9	60.4	65.1	-	55.1	64.9	-	44.0	47.1	41.7	67.2	76.8	55.8
7/3/2016	10:17:00 PM	43.4	50.4	38.9	50.1	54.5	46.3	61.0	66.2	-	51.3	58.0	-	44.0	47.9	41.5	68.1	74.1	57.8
7/3/2016	10:18:00 PM	40.7	45.3	38.1	65.5	76.9	48.9	59.7	65.4	-	54.8	68.0	-	43.4	46.7	41.1	67.0	71.1	58.4
7/3/2016	10:19:00 PM	40.3	45.7	37.3	66.1	77.6	51.5	60.6	64.6	-	52.5	60.5	-	43.1	46.8	40.9	66.6	72.7	59.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	10:20:00 PM	52.7	60.1	38.9	52.3	60.9	47.7	60.3	64.4	-	55.4	69.8	-	42.8	52.9	40.6	67.7	72.2	61.5
7/3/2016	10:21:00 PM	53.1	56.4	52.0	49.2	51.6	46.8	60.6	64.3	-	54.2	64.2	-	43.5	47.9	41.5	66.6	72.4	57.5
7/3/2016	10:22:00 PM	53.5	55.1	52.3	50.4	57.6	46.6	57.2	65.5	-	54.4	66.0	-	44.6	51.6	40.9	67.1	74.5	56.9
7/3/2016	10:23:00 PM	53.9	55.0	53.1	56.5	67.2	47.0	59.5	65.5	-	55.4	66.8	-	43.2	45.8	40.6	67.7	75.3	58.6
7/3/2016	10:24:00 PM	48.9	58.5	40.8	48.2	50.4	46.2	59.6	65.0	-	54.6	63.7	-	43.7	47.8	41.8	66.4	71.9	60.6
7/3/2016	10:25:00 PM	41.9	45.8	39.3	61.7	71.6	45.8	59.7	63.8	-	54.7	62.3	-	44.6	48.7	41.1	67.4	73.7	61.2
7/3/2016	10:26:00 PM	42.7	48.9	38.9	55.9	67.1	46.9	58.5	62.5	-	56.2	69.7	-	43.8	50.6	41.2	67.1	73.6	62.0
7/3/2016	10:27:00 PM	47.3	58.9	40.2	48.2	51.2	46.6	59.3	63.9	-	57.2	67.9	-	43.6	46.7	40.7	66.4	71.6	56.7
7/3/2016	10:28:00 PM	55.5	69.0	40.5	47.6	49.1	46.0	61.7	65.5	-	56.9	71.9	-	44.3	48.9	41.4	67.7	74.6	59.9
7/3/2016	10:29:00 PM	45.7	52.2	40.1	48.1	49.9	46.0	53.2	62.8	-	56.5	66.8	-	43.8	50.4	41.1	67.2	73.2	59.3
7/3/2016	10:30:00 PM	48.6	61.3	40.4	48.4	51.1	46.7	50.1	52.3	-	57.8	67.0	-	42.7	47.7	39.2	67.2	73.9	56.8
7/3/2016	10:31:00 PM	45.4	63.5	40.8	47.1	50.3	44.6	49.2	53.1	-	56.4	65.9	-	43.2	48.7	40.8	66.4	72.9	60.5
7/3/2016	10:32:00 PM	52.6	66.4	40.4	46.1	49.0	43.9	49.4	54.1	-	57.4	69.5	-	44.5	48.1	41.0	66.4	73.1	58.4
7/3/2016	10:33:00 PM	48.1	64.5	39.4	49.0	54.8	44.4	49.8	51.8	-	51.9	67.3	-	44.1	46.6	41.4	68.3	73.6	62.8
7/3/2016	10:34:00 PM	55.1	66.8	41.9	47.5	50.1	44.5	60.2	81.1	-	54.9	68.4	-	44.3	47.1	42.1	66.5	73.2	60.6
7/3/2016	10:35:00 PM	54.8	63.5	52.1	47.2	49.2	45.1	55.7	58.4	-	51.7	60.2	-	44.1	47.9	41.9	65.9	72.8	58.1
7/3/2016	10:36:00 PM	64.7	81.5	53.0	46.2	49.6	44.5	53.8	56.8	-	58.8	71.9	-	43.3	47.0	41.1	67.4	74.5	60.3
7/3/2016	10:37:00 PM	53.3	64.2	40.8	45.3	48.8	43.3	53.8	59.9	-	52.3	66.4	-	43.3	45.4	41.3	67.5	73.6	60.9
7/3/2016	10:38:00 PM	42.8	52.3	38.4	56.8	68.6	44.5	56.2	58.7	-	51.0	63.7	-	42.8	45.8	40.6	66.6	73.2	56.5
7/3/2016	10:39:00 PM	49.8	61.0	39.5	47.5	53.9	43.7	54.5	59.3	-	50.4	57.8	-	43.0	46.4	40.4	67.0	74.3	58.3
7/3/2016	10:40:00 PM	47.5	60.8	39.9	53.0	63.1	46.3	54.5	57.6	-	52.1	66.2	-	43.2	46.4	40.6	67.0	74.2	59.5
7/3/2016	10:41:00 PM	46.4	63.4	39.9	50.0	58.8	47.1	55.6	58.2	-	53.2	62.0	-	42.7	47.3	40.7	67.3	74.7	59.2
7/3/2016	10:42:00 PM	45.0	61.0	39.3	52.2	55.3	48.3	55.0	60.2	-	53.0	66.5	-	43.2	46.4	41.2	66.9	70.9	60.5
7/3/2016	10:43:00 PM	42.6	55.5	38.4	53.4	56.2	50.4	54.3	57.6	-	53.2	68.6	-	43.5	49.1	41.4	66.2	71.2	61.0
7/3/2016	10:44:00 PM	44.6	59.2	38.0	53.1	61.9	45.9	49.5	54.5	-	51.1	59.9	-	43.9	48.0	41.5	67.7	73.4	60.7
7/3/2016	10:45:00 PM	45.1	49.5	41.7	65.9	74.5	48.1	49.8	58.8	-	50.7	61.1	-	44.4	50.7	41.1	65.6	72.6	57.8
7/3/2016	10:46:00 PM	44.4	53.2	40.8	55.1	61.5	47.9	48.3	54.3	-	51.1	60.5	-	42.9	47.8	40.8	66.7	72.9	60.0
7/3/2016	10:47:00 PM	46.0	53.2	38.1	60.1	73.9	46.2	50.9	58.0	-	50.7	55.8	-	43.2	46.4	40.1	66.6	72.2	59.8
7/3/2016	10:48:00 PM	49.8	57.5	38.9	66.8	77.5	52.6	53.9	64.8	-	50.5	57.7	-	44.1	48.9	41.6	66.0	69.9	61.3
7/3/2016	10:49:00 PM	54.7	58.2	52.6	49.0	55.0	45.9	61.3	65.9	-	50.6	56.3	-	42.8	46.1	40.5	66.7	72.8	59.1
7/3/2016	10:50:00 PM	53.7	56.7	52.2	47.8	51.6	45.0	59.6	66.0	-	51.4	62.4	-	42.6	47.6	40.2	66.3	72.5	59.1
7/3/2016	10:51:00 PM	54.2	55.5	53.0	65.7	75.3	47.2	59.3	65.1	-	51.6	61.2	-	45.1	50.3	40.8	66.8	73.6	61.0
7/3/2016	10:52:00 PM	51.3	59.2	42.9	51.7	58.5	46.6	59.6	65.0	-	50.7	58.5	-	45.5	53.9	41.9	67.3	72.8	59.7
7/3/2016	10:53:00 PM	47.1	57.2	41.4	50.1	59.1	45.7	50.8	57.5	-	49.9	55.9	-	43.0	46.7	40.5	67.8	74.2	59.0
7/3/2016	10:54:00 PM	44.4	53.8	40.6	46.4	49.8	44.2	49.0	55.7	-	51.9	55.4	-	45.4	49.6	41.7	65.8	73.3	58.2
7/3/2016	10:55:00 PM	42.4	47.2	39.7	47.6	52.0	45.0	52.2	61.7	-	50.2	56.1	-	44.2	54.6	41.3	66.9	72.7	61.1
7/3/2016	10:56:00 PM	42.2	45.5	39.8	48.5	53.6	46.1	58.8	67.1	-	50.6	63.5	-	43.4	51.8	40.5	66.2	72.2	60.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	10:57:00 PM	42.4	47.0	38.9	48.3	49.9	46.3	60.0	65.2	-	50.5	55.8	-	45.4	57.4	41.4	66.7	74.0	59.0
7/3/2016	10:58:00 PM	41.0	47.7	38.0	52.3	59.4	45.8	59.7	65.0	-	50.5	56.5	-	44.5	52.4	41.2	67.2	72.8	57.8
7/3/2016	10:59:00 PM	40.5	44.9	38.3	49.1	59.7	44.9	60.4	67.4	-	50.3	55.8	-	43.3	54.2	41.0	68.0	74.0	61.4
7/3/2016	11:00:00 PM	41.1	47.8	37.8	48.3	50.7	46.4	56.5	64.1	-	49.8	56.1	-	44.5	60.0	41.1	66.1	71.7	59.0
7/3/2016	11:01:00 PM	41.8	56.6	38.5	49.1	51.6	46.7	60.8	69.2	-	54.2	68.1	-	42.0	44.8	39.9	66.4	74.1	58.4
7/3/2016	11:02:00 PM	53.9	58.2	50.2	47.8	51.9	45.7	60.6	68.3	-	50.3	55.3	-	42.2	46.5	39.6	66.9	71.9	61.5
7/3/2016	11:03:00 PM	53.2	55.0	52.0	50.8	68.7	46.4	59.4	67.2	-	51.4	59.6	-	41.8	44.3	39.7	67.6	74.2	61.4
7/3/2016	11:04:00 PM	53.9	55.0	53.0	48.0	49.6	46.0	59.1	64.7	-	51.1	56.8	-	42.5	46.8	39.7	66.5	72.2	60.7
7/3/2016	11:05:00 PM	52.8	56.7	40.4	63.7	73.0	45.7	59.6	63.5	-	51.6	59.1	-	42.7	45.8	40.2	66.7	73.3	57.3
7/3/2016	11:06:00 PM	42.6	46.8	37.9	55.0	65.9	46.6	60.3	65.0	-	50.1	56.5	-	43.1	46.1	40.2	65.9	72.4	60.4
7/3/2016	11:07:00 PM	46.6	55.5	38.3	47.1	50.6	44.8	60.1	64.2	-	50.0	53.5	-	43.0	45.6	40.5	66.7	72.4	60.0
7/3/2016	11:08:00 PM	42.8	48.1	39.2	48.7	54.3	44.9	55.4	63.9	-	49.6	53.2	-	43.7	46.7	41.1	66.8	74.4	59.0
7/3/2016	11:09:00 PM	42.7	51.6	39.3	50.7	56.6	45.8	59.6	63.3	-	49.7	55.7	-	43.4	52.5	40.7	66.4	72.5	54.9
7/3/2016	11:10:00 PM	41.4	52.3	39.4	58.9	68.9	46.7	59.0	62.9	-	49.3	57.1	-	42.7	48.5	40.9	66.9	73.3	60.3
7/3/2016	11:11:00 PM	43.1	48.2	40.4	53.2	61.1	47.3	59.2	66.3	-	49.2	51.8	-	42.8	47.2	40.8	66.5	72.9	58.9
7/3/2016	11:12:00 PM	50.2	61.7	41.4	53.0	59.9	47.5	59.7	65.4	-	51.4	56.0	-	45.3	51.2	41.9	67.1	72.2	62.0
7/3/2016	11:13:00 PM	50.2	60.8	39.6	54.7	63.1	47.0	60.0	65.4	-	49.8	55.2	-	43.8	53.3	40.5	67.1	72.5	61.6
7/3/2016	11:14:00 PM	42.4	57.8	37.8	47.6	51.3	45.9	59.8	63.7	-	49.8	61.6	-	42.5	55.4	39.9	67.3	72.6	60.6
7/3/2016	11:15:00 PM	45.8	56.5	36.9	49.8	54.9	45.9	60.3	67.5	-	49.1	52.3	-	42.9	49.1	40.0	67.0	72.8	61.9
7/3/2016	11:16:00 PM	53.6	55.4	52.4	50.0	60.6	44.8	60.6	65.2	-	49.9	55.1	-	43.5	46.5	41.1	66.4	72.7	60.9
7/3/2016	11:17:00 PM	53.3	55.0	51.9	46.8	49.1	43.9	58.6	63.1	-	50.1	56.1	-	44.1	48.7	40.6	66.8	71.3	60.9
7/3/2016	11:18:00 PM	53.7	59.8	52.5	47.1	53.2	45.0	60.0	63.0	-	49.8	56.3	-	42.2	44.3	40.1	67.1	74.1	62.1
7/3/2016	11:19:00 PM	51.5	56.0	41.0	53.9	62.2	45.7	60.0	63.6	-	49.5	54.5	-	44.0	51.7	40.5	66.8	71.2	61.7
7/3/2016	11:20:00 PM	42.8	59.2	38.2	46.0	47.7	44.3	60.3	63.7	-	50.1	57.1	-	42.5	54.2	40.1	67.3	72.3	63.0
7/3/2016	11:21:00 PM	47.7	56.4	38.4	57.2	65.3	44.2	59.8	67.0	-	51.0	55.9	-	42.3	44.3	40.7	66.7	73.1	61.0
7/3/2016	11:22:00 PM	39.9	46.2	36.9	48.4	53.4	44.1	58.6	65.1	-	50.2	53.2	-	42.3	49.4	40.4	67.5	71.3	63.2
7/3/2016	11:23:00 PM	43.1	53.0	36.9	47.0	49.7	45.5	59.9	65.3	-	49.7	53.0	-	43.7	48.7	41.5	66.1	71.0	59.5
7/3/2016	11:24:00 PM	38.8	46.4	36.0	47.3	56.8	44.8	59.6	64.6	-	49.4	55.7	-	43.9	49.1	41.3	65.9	72.1	61.0
7/3/2016	11:25:00 PM	37.3	46.8	34.8	47.0	50.2	44.5	59.3	63.9	-	50.1	54.4	-	44.3	52.3	40.7	66.6	69.9	61.6
7/3/2016	11:26:00 PM	37.7	41.5	35.3	47.5	51.6	44.7	59.2	63.0	-	51.0	55.9	-	42.7	48.6	40.4	67.1	72.9	62.6
7/3/2016	11:27:00 PM	37.1	44.3	34.2	47.6	54.0	45.2	58.4	63.4	-	50.4	56.2	-	41.8	44.2	40.0	65.6	70.6	58.9
7/3/2016	11:28:00 PM	38.8	49.8	34.5	46.3	48.7	44.5	50.0	55.9	-	64.0	77.1	-	41.7	45.4	39.6	67.0	73.4	60.7
7/3/2016	11:29:00 PM	38.3	41.3	35.8	46.8	49.3	45.0	51.6	59.5	-	50.4	55.2	-	41.0	46.1	39.0	65.9	72.2	58.0
7/3/2016	11:30:00 PM	52.4	58.0	37.0	48.6	56.0	44.5	58.9	64.0	-	49.2	52.4	-	41.7	46.3	39.1	66.1	69.7	62.2
7/3/2016	11:31:00 PM	53.4	54.5	51.9	47.1	54.2	44.0	58.9	66.3	-	48.8	51.3	-	42.2	45.0	39.8	65.9	70.8	60.0
7/3/2016	11:32:00 PM	54.0	55.1	52.7	45.4	48.0	43.6	59.4	65.0	-	48.7	51.6	-	41.5	44.8	39.2	66.2	70.2	62.9
7/3/2016	11:33:00 PM	52.8	57.2	39.8	51.6	62.7	44.1	58.4	64.6	-	49.3	53.8	-	40.6	46.9	37.9	67.0	73.2	61.1

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/3/2016	11:34:00 PM	39.7	43.0	36.2	45.3	52.6	42.8	59.9	66.6	-	49.6	56.8	-	41.9	48.9	39.7	65.2	71.2	58.0
7/3/2016	11:35:00 PM	38.4	44.6	35.6	46.8	50.7	44.8	59.2	67.0	-	50.1	55.4	-	41.5	45.0	39.5	66.8	74.4	63.1
7/3/2016	11:36:00 PM	40.8	49.8	35.6	45.8	47.9	44.4	55.2	63.2	-	50.0	54.4	-	42.5	45.8	40.2	66.2	71.2	61.8
7/3/2016	11:37:00 PM	37.8	44.9	36.1	47.4	55.5	43.8	60.1	67.0	-	49.3	51.5	-	42.2	44.6	40.4	66.2	72.6	61.1
7/3/2016	11:38:00 PM	37.8	43.6	35.3	45.3	47.0	43.8	59.9	65.9	-	48.5	53.5	-	41.9	44.9	39.5	65.8	70.8	60.8
7/3/2016	11:39:00 PM	38.1	41.3	36.4	45.6	50.0	43.8	59.4	63.5	-	48.1	51.2	-	42.1	45.9	39.5	66.7	72.1	60.6
7/3/2016	11:40:00 PM	37.8	48.1	35.8	45.4	48.4	43.9	60.6	65.6	-	49.5	52.7	-	41.5	45.8	39.2	65.6	71.3	61.2
7/3/2016	11:41:00 PM	38.9	51.6	36.2	53.5	64.2	44.8	57.8	63.8	-	49.0	53.5	-	41.7	44.4	40.2	65.3	69.6	60.2
7/3/2016	11:42:00 PM	39.9	51.5	36.3	49.3	53.4	45.1	59.5	64.9	-	49.3	54.8	-	41.5	44.7	39.5	65.9	71.7	60.3
7/3/2016	11:43:00 PM	38.6	41.7	36.5	51.0	59.5	46.2	60.2	64.6	-	48.8	53.1	-	41.6	45.7	39.2	66.3	70.3	61.8
7/3/2016	11:44:00 PM	45.1	57.4	36.9	48.7	51.2	45.7	60.4	65.0	-	49.6	54.6	-	40.8	44.6	38.7	66.5	71.4	61.6
7/3/2016	11:45:00 PM	53.6	54.6	52.3	49.4	52.6	47.3	60.1	64.2	-	49.2	51.7	-	41.7	45.6	38.7	66.3	72.2	61.0
7/3/2016	11:46:00 PM	53.3	55.0	52.1	50.7	58.3	48.1	60.5	63.9	-	48.6	52.4	-	42.5	45.5	39.5	67.1	72.3	60.5
7/3/2016	11:47:00 PM	54.8	69.1	52.9	50.5	54.4	47.2	59.1	64.3	-	48.7	52.3	-	42.4	50.5	39.9	66.1	73.0	59.6
7/3/2016	11:48:00 PM	51.2	56.4	38.7	49.6	59.2	46.7	60.4	69.4	-	50.7	55.4	-	42.7	46.9	40.5	65.4	70.9	61.1
7/3/2016	11:49:00 PM	38.7	48.3	36.2	48.6	55.3	45.9	60.2	66.2	-	49.6	55.6	-	41.3	43.5	39.6	65.4	70.8	58.8
7/3/2016	11:50:00 PM	39.2	54.2	36.0	46.9	49.6	45.3	60.6	67.6	-	48.6	51.5	-	42.2	45.6	40.0	67.2	71.8	62.2
7/3/2016	11:51:00 PM	39.1	42.4	37.4	45.2	48.2	43.3	61.2	65.4	-	48.5	51.0	-	42.6	45.2	40.5	65.7	69.9	60.8
7/3/2016	11:52:00 PM	39.9	43.7	37.8	45.5	51.2	43.1	61.0	65.5	-	49.4	53.8	-	43.3	52.5	38.7	66.4	70.9	57.2
7/3/2016	11:53:00 PM	40.0	44.5	36.4	51.4	57.6	45.1	61.0	65.3	-	49.7	52.3	-	41.8	46.3	39.2	65.9	70.9	61.5
7/3/2016	11:54:00 PM	38.3	42.3	35.8	46.7	52.2	43.9	59.7	66.7	-	49.2	52.6	-	42.2	45.7	39.2	66.3	72.5	60.6
7/3/2016	11:55:00 PM	38.9	42.1	36.3	50.7	63.2	44.0	59.2	65.8	-	48.7	53.2	-	42.0	48.9	38.3	65.4	70.0	60.0
7/3/2016	11:56:00 PM	38.5	40.9	35.7	45.4	49.3	43.5	59.7	65.3	-	48.7	51.4	-	41.3	46.2	39.5	65.7	70.2	62.3
7/3/2016	11:57:00 PM	38.1	43.5	35.0	46.1	50.2	44.4	59.6	64.9	-	48.4	51.8	-	42.4	46.4	39.9	65.6	71.9	61.2
7/3/2016	11:58:00 PM	37.1	40.5	35.0	46.1	50.3	43.3	60.1	64.9	-	48.4	53.8	-	40.7	43.4	38.7	66.1	70.2	60.7
7/3/2016	11:59:00 PM	48.7	56.7	35.1	46.1	50.0	42.8	57.0	63.2	-	47.4	49.5	-	42.5	49.4	38.6	65.8	70.3	60.9
7/4/2016	12:00:00 AM	53.8	54.7	52.6	46.4	49.7	42.9	61.2	65.8	-	48.6	53.7	-	42.7	58.5	38.6	65.7	70.9	61.6
7/4/2016	12:01:00 AM	53.7	55.4	52.1	45.8	49.7	43.5	57.5	64.0	-	48.4	52.7	-	41.3	46.0	38.5	65.3	70.8	59.6
7/4/2016	12:02:00 AM	54.1	56.6	52.8	46.0	50.0	42.4	53.0	60.1	-	48.5	52.5	-	43.7	52.5	38.9	65.9	71.0	61.9
7/4/2016	12:03:00 AM	49.5	61.0	36.3	44.7	49.7	42.4	47.7	52.8	-	47.6	50.4	-	44.1	55.8	39.7	65.9	70.0	60.9
7/4/2016	12:04:00 AM	44.5	55.1	34.4	44.9	48.3	42.1	46.7	49.6	-	48.9	53.7	-	48.1	59.9	40.7	64.9	69.2	59.9
7/4/2016	12:05:00 AM	37.5	49.8	34.5	44.1	47.7	41.7	46.7	49.5	-	48.8	51.8	-	43.3	46.2	39.2	64.6	69.5	59.4
7/4/2016	12:06:00 AM	37.0	41.8	34.8	43.2	45.3	41.3	47.2	50.3	-	48.2	51.5	-	42.0	45.1	39.8	65.6	69.8	61.8
7/4/2016	12:07:00 AM	37.8	46.5	35.5	44.5	46.9	42.2	46.3	50.0	-	48.5	51.1	-	41.5	43.6	39.8	65.2	69.6	61.0
7/4/2016	12:08:00 AM	40.1	45.7	36.5	47.2	53.1	43.3	45.2	51.2	-	48.7	52.2	-	43.8	49.3	40.6	66.0	71.4	61.4
7/4/2016	12:09:00 AM	48.8	60.0	39.0	51.2	63.8	42.7	46.9	50.8	-	50.1	56.4	-	42.6	46.3	40.4	65.5	70.4	61.5
7/4/2016	12:10:00 AM	41.4	53.1	35.6	45.0	46.9	43.3	45.9	49.5	-	49.4	54.1	-	42.6	46.3	40.5	65.2	68.9	60.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	12:11:00 AM	39.9	57.3	34.8	44.5	46.3	42.8	45.5	47.5	-	48.7	51.6	-	42.9	45.8	40.9	65.1	69.8	60.6
7/4/2016	12:12:00 AM	39.6	48.1	36.4	45.9	49.8	43.4	47.3	51.0	-	47.6	52.5	-	43.4	47.1	40.9	64.5	69.9	59.7
7/4/2016	12:13:00 AM	52.3	68.0	40.0	47.4	54.3	43.3	47.2	50.9	-	47.7	54.5	-	44.9	67.8	40.1	65.8	69.8	59.0
7/4/2016	12:14:00 AM	53.6	58.7	39.5	54.4	63.9	44.2	47.7	52.9	-	47.0	49.1	-	41.7	44.4	39.0	65.0	69.3	61.0
7/4/2016	12:15:00 AM	53.4	59.4	52.2	44.7	46.7	42.9	46.8	50.4	-	47.0	49.1	-	46.3	54.2	39.2	65.2	70.5	61.6
7/4/2016	12:16:00 AM	54.2	56.4	52.7	45.9	50.3	42.4	49.0	57.0	-	48.2	52.6	-	45.9	53.7	40.2	65.6	68.7	61.9
7/4/2016	12:17:00 AM	52.4	57.2	39.5	44.4	46.8	42.4	48.6	55.1	-	47.8	50.4	-	41.9	44.6	39.7	65.2	70.4	61.0
7/4/2016	12:18:00 AM	38.1	43.1	35.0	44.5	47.8	42.3	50.0	65.1	-	48.6	55.3	-	41.3	44.3	39.2	66.4	71.8	61.4
7/4/2016	12:19:00 AM	45.5	54.9	36.1	48.3	51.4	44.6	45.4	54.1	-	47.9	52.9	-	41.2	43.9	39.3	65.1	72.1	60.0
7/4/2016	12:20:00 AM	36.5	40.2	34.5	45.9	50.6	42.4	45.1	54.2	-	47.9	50.3	-	40.9	45.0	38.6	65.4	69.9	61.0
7/4/2016	12:21:00 AM	35.6	38.7	33.7	44.4	47.6	42.6	48.8	57.6	-	47.6	51.5	-	42.5	46.3	40.0	65.7	69.5	62.4
7/4/2016	12:22:00 AM	39.3	44.0	34.6	44.0	47.8	42.4	48.1	57.9	-	56.3	69.8	-	41.2	44.1	38.7	65.2	68.9	62.2
7/4/2016	12:23:00 AM	36.8	42.4	34.2	47.3	49.7	44.2	50.9	61.2	-	54.4	68.1	-	42.3	46.7	39.6	65.2	69.9	59.6
7/4/2016	12:24:00 AM	35.4	39.3	33.5	45.9	59.6	42.6	46.3	52.0	-	49.6	56.5	-	40.5	42.9	38.4	65.4	70.6	61.5
7/4/2016	12:25:00 AM	35.8	38.9	33.7	45.0	50.0	42.6	45.7	49.4	-	48.5	57.6	-	41.9	45.1	39.6	65.2	70.0	60.8
7/4/2016	12:26:00 AM	36.3	39.6	33.4	46.7	51.4	44.1	46.3	51.5	-	47.4	50.4	-	43.1	52.9	39.1	65.0	69.6	61.7
7/4/2016	12:27:00 AM	38.3	50.5	33.4	45.0	48.3	42.9	45.3	48.9	-	47.6	53.4	-	41.1	44.9	38.6	64.7	69.3	60.2
7/4/2016	12:28:00 AM	35.7	38.4	33.9	44.6	49.6	42.3	45.5	54.3	-	46.9	49.5	-	40.7	42.6	38.9	64.4	67.9	59.7
7/4/2016	12:29:00 AM	53.8	58.2	34.3	46.1	48.7	43.8	45.7	52.1	-	47.1	50.9	-	40.4	43.9	38.5	66.1	70.8	60.4
7/4/2016	12:30:00 AM	53.4	54.7	52.3	44.8	53.7	42.0	44.5	48.4	-	48.8	52.6	-	41.1	45.0	38.3	65.1	69.9	61.7
7/4/2016	12:31:00 AM	54.6	55.9	53.3	49.6	59.5	43.2	44.9	48.1	-	49.0	51.9	-	41.6	46.0	38.9	65.2	69.7	61.1
7/4/2016	12:32:00 AM	51.3	56.9	38.7	47.8	52.8	45.3	45.7	49.3	-	48.5	50.9	-	43.1	49.1	39.6	64.7	68.8	58.2
7/4/2016	12:33:00 AM	36.5	45.3	33.7	48.2	60.3	43.9	45.6	48.3	-	48.0	53.1	-	41.4	45.9	38.2	65.4	69.8	62.0
7/4/2016	12:34:00 AM	35.9	46.0	33.4	49.9	63.3	44.6	45.7	50.8	-	48.3	53.3	-	40.8	46.4	38.5	65.4	69.9	62.3
7/4/2016	12:35:00 AM	35.9	38.4	33.9	48.3	61.0	43.7	45.9	49.2	-	48.0	51.6	-	40.9	44.8	39.0	65.4	70.1	61.5
7/4/2016	12:36:00 AM	35.9	40.6	33.5	46.7	55.4	43.0	44.9	47.2	-	48.8	52.0	-	41.3	45.4	39.3	64.9	69.0	61.6
7/4/2016	12:37:00 AM	37.9	43.7	34.0	44.3	46.6	42.7	45.9	50.5	-	49.8	54.6	-	42.1	46.5	39.1	65.5	70.7	60.1
7/4/2016	12:38:00 AM	36.9	39.3	35.1	46.0	50.5	42.9	44.9	48.7	-	49.3	53.6	-	41.8	44.2	39.8	65.1	68.4	61.3
7/4/2016	12:39:00 AM	38.7	41.5	36.3	45.2	47.5	43.3	45.4	49.3	-	48.8	52.6	-	42.9	46.6	40.7	65.6	70.5	60.2
7/4/2016	12:40:00 AM	38.4	41.0	36.9	44.5	48.4	42.4	44.4	49.3	-	48.7	56.7	-	41.7	46.5	39.6	65.5	70.2	62.0
7/4/2016	12:41:00 AM	37.8	40.4	36.5	46.5	49.7	43.8	44.8	47.7	-	48.4	55.5	-	42.0	45.3	39.8	64.9	69.9	60.0
7/4/2016	12:42:00 AM	37.7	41.3	34.9	46.4	49.8	44.0	46.8	49.0	-	49.0	51.7	-	43.0	46.0	41.0	64.9	70.0	61.3
7/4/2016	12:43:00 AM	47.0	57.6	35.0	46.0	54.9	43.0	44.8	48.1	-	48.9	52.0	-	43.1	46.3	41.1	64.8	69.2	60.2
7/4/2016	12:44:00 AM	53.9	55.0	52.3	46.9	51.4	44.0	45.6	48.0	-	49.5	53.3	-	43.3	49.5	40.9	65.1	69.0	60.2
7/4/2016	12:45:00 AM	53.4	55.1	52.1	45.3	47.7	43.1	44.3	46.3	-	49.8	54.1	-	43.1	47.3	40.2	64.6	69.2	60.2
7/4/2016	12:46:00 AM	54.4	55.7	53.0	44.4	46.5	42.4	45.6	51.0	-	49.5	52.7	-	42.9	48.8	40.5	64.5	68.7	60.8
7/4/2016	12:47:00 AM	44.8	55.8	33.9	44.6	49.7	42.3	44.4	47.1	-	49.1	52.4	-	42.7	49.0	40.5	65.0	68.5	61.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	12:48:00 AM	35.7	39.2	33.9	44.1	48.2	41.8	45.6	48.4	-	49.0	51.4	-	42.1	45.7	39.8	64.9	70.2	61.0
7/4/2016	12:49:00 AM	36.2	40.2	34.4	44.7	46.6	42.8	46.9	56.1	-	49.6	52.9	-	42.3	49.8	40.2	63.7	68.3	59.7
7/4/2016	12:50:00 AM	35.9	40.9	32.9	44.8	49.2	42.9	49.0	53.1	-	50.2	57.6	-	43.2	46.7	39.9	65.3	69.6	62.4
7/4/2016	12:51:00 AM	43.0	51.9	33.7	46.3	50.6	43.5	48.8	59.1	-	48.9	54.4	-	42.9	46.0	39.9	64.3	70.4	61.2
7/4/2016	12:52:00 AM	38.7	56.5	33.5	45.2	50.0	43.0	47.0	50.8	-	48.8	55.1	-	43.4	48.1	40.1	64.7	69.3	62.2
7/4/2016	12:53:00 AM	45.6	56.4	34.5	44.0	45.7	42.3	46.7	49.8	-	48.0	55.3	-	40.4	43.7	38.1	64.6	67.3	61.2
7/4/2016	12:54:00 AM	38.3	47.6	35.1	43.7	45.8	42.1	48.4	59.9	-	48.8	57.0	-	41.6	44.7	38.1	65.2	68.7	62.5
7/4/2016	12:55:00 AM	36.9	39.7	35.4	44.6	46.7	42.2	47.4	50.3	-	48.6	52.0	-	41.9	45.5	39.5	64.4	67.9	60.7
7/4/2016	12:56:00 AM	37.0	41.6	35.1	44.5	49.1	42.3	48.8	62.6	-	48.1	51.6	-	41.0	46.1	38.9	64.3	69.0	61.6
7/4/2016	12:57:00 AM	39.0	45.0	35.1	46.3	50.3	43.7	47.8	51.2	-	48.1	53.1	-	41.0	44.6	38.4	64.0	67.2	61.4
7/4/2016	12:58:00 AM	42.7	57.2	36.3	48.4	56.4	44.8	47.2	50.1	-	48.7	51.3	-	40.5	43.9	38.0	64.8	67.8	60.8
7/4/2016	12:59:00 AM	49.9	58.0	36.2	51.3	59.3	48.3	48.9	63.1	-	47.7	50.5	-	41.4	48.3	39.0	64.6	69.0	61.6
7/4/2016	1:00:00 AM	53.6	54.8	52.2	51.8	58.3	46.9	47.7	51.6	-	50.5	57.3	-	41.3	45.6	39.3	64.3	67.9	60.2
7/4/2016	1:01:00 AM	53.8	55.1	52.5	46.7	57.6	42.7	48.3	60.7	-	48.9	57.4	-	41.2	46.2	38.9	64.3	67.4	61.9
7/4/2016	1:02:00 AM	54.1	55.1	53.1	44.3	46.6	42.3	43.7	49.3	-	47.1	49.8	-	41.2	45.1	39.0	64.3	69.0	60.4
7/4/2016	1:03:00 AM	53.3	61.9	39.8	43.4	45.6	41.4	49.4	51.6	-	47.8	51.0	-	41.2	43.8	38.5	64.4	68.5	60.1
7/4/2016	1:04:00 AM	38.7	48.2	34.3	44.8	48.8	41.8	49.8	55.2	-	46.9	50.8	-	40.8	47.8	38.5	63.7	68.1	60.6
7/4/2016	1:05:00 AM	36.5	41.6	33.7	43.5	47.8	41.7	48.3	52.0	-	48.1	52.1	-	40.5	44.3	38.2	64.6	68.4	60.1
7/4/2016	1:06:00 AM	37.3	46.5	33.7	43.7	45.9	41.7	47.9	50.1	-	47.6	52.4	-	41.8	46.2	39.4	64.7	68.8	61.6
7/4/2016	1:07:00 AM	41.1	52.0	34.4	43.6	46.1	41.9	49.8	54.2	-	46.2	50.8	-	41.2	45.4	39.0	64.0	68.1	60.8
7/4/2016	1:08:00 AM	51.2	70.4	37.9	43.0	44.7	41.2	50.0	52.6	-	46.8	49.5	-	39.7	45.1	36.8	63.6	66.9	59.9
7/4/2016	1:09:00 AM	41.9	56.3	37.3	44.0	45.8	42.1	48.2	51.3	-	46.6	49.0	-	38.9	42.9	36.4	64.5	69.4	61.4
7/4/2016	1:10:00 AM	38.7	41.2	36.8	44.1	47.2	42.4	49.3	53.2	-	47.8	50.3	-	40.1	44.1	37.4	63.8	67.9	61.3
7/4/2016	1:11:00 AM	37.8	41.6	34.5	44.5	46.7	42.3	49.2	51.9	-	46.7	57.9	-	40.1	44.6	36.5	64.0	68.3	61.0
7/4/2016	1:12:00 AM	36.6	39.8	34.4	44.6	47.2	42.1	48.5	52.2	-	47.3	50.9	-	41.7	46.2	38.1	63.0	66.6	60.7
7/4/2016	1:13:00 AM	47.3	59.1	35.1	46.5	49.8	44.1	49.3	54.1	-	48.4	51.7	-	40.9	44.0	38.4	64.0	68.0	61.7
7/4/2016	1:14:00 AM	36.0	39.2	33.1	45.4	48.3	43.0	50.6	53.0	-	48.2	51.6	-	40.0	42.7	38.2	64.6	68.6	62.0
7/4/2016	1:15:00 AM	52.2	57.2	33.8	44.0	46.7	41.8	47.1	51.5	-	48.5	52.4	-	39.9	43.1	37.8	63.8	67.2	60.8
7/4/2016	1:16:00 AM	54.1	55.1	53.2	45.1	47.8	42.4	47.4	52.7	-	48.6	53.6	-	40.3	45.0	37.1	63.2	66.9	58.7
7/4/2016	1:17:00 AM	54.6	55.7	53.5	45.0	48.7	42.2	46.4	55.5	-	48.9	55.8	-	40.9	46.8	38.1	64.5	67.9	61.9
7/4/2016	1:18:00 AM	53.8	55.1	52.5	47.0	58.8	43.7	44.3	46.9	-	48.8	54.5	-	40.2	48.2	36.5	64.2	66.9	61.7
7/4/2016	1:19:00 AM	50.8	55.3	39.4	46.5	49.7	43.7	43.1	46.4	-	49.4	54.1	-	40.9	44.9	38.2	64.6	68.6	61.6
7/4/2016	1:20:00 AM	38.0	43.6	35.5	48.1	50.6	45.4	43.3	45.9	-	48.4	55.9	-	41.4	49.1	37.7	63.4	66.1	61.0
7/4/2016	1:21:00 AM	38.4	44.5	35.5	46.6	49.0	44.1	43.8	47.3	-	49.7	63.0	-	40.7	44.8	37.7	63.8	66.5	61.3
7/4/2016	1:22:00 AM	37.1	42.8	34.8	46.1	50.8	43.5	44.5	47.3	-	48.4	60.7	-	40.0	42.6	38.3	63.8	67.5	61.2
7/4/2016	1:23:00 AM	36.8	39.2	34.9	46.4	53.1	42.8	42.9	44.6	-	47.8	60.5	-	40.6	43.5	37.5	63.4	66.7	59.8
7/4/2016	1:24:00 AM	36.6	39.1	34.3	45.9	51.7	43.4	44.2	46.6	-	49.4	60.3	-	40.0	44.3	37.3	64.3	69.3	61.1

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	1:25:00 AM	36.1	39.6	32.9	56.9	63.5	43.8	43.8	46.2	-	48.8	62.0	-	40.5	43.8	38.4	63.0	67.4	60.7
7/4/2016	1:26:00 AM	39.7	47.5	34.5	58.1	64.0	44.9	43.7	46.4	-	46.4	51.7	-	41.5	48.0	38.1	62.9	66.7	61.0
7/4/2016	1:27:00 AM	46.0	54.8	36.2	50.2	56.5	43.2	43.3	47.8	-	46.5	51.4	-	39.8	43.7	37.1	64.0	68.3	60.8
7/4/2016	1:28:00 AM	38.9	48.5	36.3	46.7	54.8	43.7	42.3	44.6	-	49.2	65.2	-	38.9	43.4	36.4	62.7	65.7	59.6
7/4/2016	1:29:00 AM	39.1	46.1	34.9	48.7	63.1	45.3	43.9	46.7	-	48.5	51.1	-	41.5	49.6	37.0	63.8	72.2	59.8
7/4/2016	1:30:00 AM	47.8	56.7	33.8	49.2	57.0	45.5	43.8	45.8	-	46.7	53.8	-	39.8	42.9	36.8	63.2	65.4	61.0
7/4/2016	1:31:00 AM	53.5	54.5	52.1	48.6	51.8	45.1	43.4	45.5	-	47.6	51.6	-	41.9	46.5	38.7	63.8	70.6	61.1
7/4/2016	1:32:00 AM	53.5	55.1	52.4	53.7	60.8	47.2	44.4	46.3	-	47.5	58.2	-	40.2	45.9	37.7	64.1	67.2	60.9
7/4/2016	1:33:00 AM	54.2	55.5	52.7	59.6	66.7	45.2	48.0	51.7	-	48.4	58.2	-	39.8	44.0	36.9	62.9	66.6	59.9
7/4/2016	1:34:00 AM	51.9	56.1	39.3	45.3	47.8	43.4	45.9	52.2	-	47.7	51.8	-	39.9	47.5	37.8	64.0	68.5	61.3
7/4/2016	1:35:00 AM	37.5	46.3	32.7	44.4	46.3	42.6	44.7	50.8	-	47.1	49.8	-	40.1	42.8	37.9	63.3	66.5	60.6
7/4/2016	1:36:00 AM	35.2	39.7	32.5	44.3	46.5	42.4	43.5	46.6	-	48.5	52.0	-	39.3	43.0	36.9	63.7	68.1	61.3
7/4/2016	1:37:00 AM	37.4	41.9	33.7	44.3	47.7	42.0	43.3	45.9	-	47.1	49.5	-	39.8	46.7	36.8	63.9	68.3	61.0
7/4/2016	1:38:00 AM	44.1	52.8	37.5	44.9	47.9	41.5	44.9	48.8	-	46.5	55.7	-	39.7	42.7	37.3	63.9	68.4	61.1
7/4/2016	1:39:00 AM	39.0	40.9	37.2	44.4	46.5	42.4	51.0	59.4	-	48.5	53.3	-	40.4	46.5	37.5	62.8	66.6	60.0
7/4/2016	1:40:00 AM	39.5	44.9	37.5	43.8	45.2	42.2	45.4	50.3	-	49.3	54.6	-	39.1	42.0	37.1	63.8	67.2	60.6
7/4/2016	1:41:00 AM	44.8	57.6	36.3	43.5	45.3	41.5	42.0	46.5	-	48.2	63.5	-	38.7	49.7	36.5	63.7	67.3	60.9
7/4/2016	1:42:00 AM	53.3	54.3	52.3	44.5	46.8	42.2	44.1	47.7	-	49.0	64.2	-	40.7	44.8	38.0	63.7	66.9	61.5
7/4/2016	1:43:00 AM	54.0	55.7	52.6	46.6	52.8	43.4	44.1	48.2	-	49.1	65.6	-	39.2	44.4	36.8	63.2	66.5	59.6
7/4/2016	1:44:00 AM	53.9	55.4	52.0	45.4	48.6	43.0	44.4	48.4	-	47.2	57.8	-	38.8	47.5	36.2	64.0	68.0	60.9
7/4/2016	1:45:00 AM	52.4	53.4	51.5	43.6	45.3	41.7	44.4	47.7	-	49.4	62.2	-	39.1	42.6	36.9	63.7	66.0	61.5
7/4/2016	1:46:00 AM	52.5	53.8	51.6	45.3	48.9	42.4	43.9	47.8	-	48.1	63.2	-	40.4	46.7	37.5	62.6	66.1	59.8
7/4/2016	1:47:00 AM	53.0	54.5	51.5	44.4	47.1	41.3	42.9	44.7	-	46.6	50.1	-	45.6	56.8	39.2	61.9	65.9	59.6
7/4/2016	1:48:00 AM	52.4	53.2	51.5	44.6	49.4	41.5	47.1	54.8	-	46.5	49.2	-	40.9	46.6	37.9	63.3	66.4	61.1
7/4/2016	1:49:00 AM	52.4	53.3	51.6	57.8	65.0	46.0	46.2	54.7	-	46.2	49.4	-	38.7	41.7	36.3	63.2	66.1	60.6
7/4/2016	1:50:00 AM	52.5	53.2	51.7	49.7	62.3	41.8	43.0	45.9	-	46.0	49.8	-	38.7	41.8	36.5	63.1	66.9	60.4
7/4/2016	1:51:00 AM	52.9	56.9	51.6	43.3	46.1	41.4	43.9	46.8	-	46.6	50.5	-	39.8	43.4	37.5	63.2	66.2	59.5
7/4/2016	1:52:00 AM	52.2	52.9	51.4	44.3	47.8	41.4	43.2	47.9	-	47.7	56.1	-	39.3	43.6	37.2	63.4	66.4	60.7
7/4/2016	1:53:00 AM	52.2	53.0	51.4	44.0	46.4	41.6	47.1	57.1	-	47.9	52.3	-	38.6	45.0	35.4	63.7	66.5	61.2
7/4/2016	1:54:00 AM	52.1	52.9	51.3	44.4	46.4	42.3	45.3	55.2	-	49.8	57.8	-	40.1	46.7	36.5	62.6	64.7	60.1
7/4/2016	1:55:00 AM	52.0	52.9	51.2	45.2	56.4	43.2	43.1	48.1	-	52.1	58.4	-	39.6	43.7	36.5	63.3	67.2	60.5
7/4/2016	1:56:00 AM	52.3	54.8	51.2	44.7	48.0	42.2	44.4	63.9	-	51.3	60.2	-	40.2	44.3	37.8	63.0	65.6	60.0
7/4/2016	1:57:00 AM	51.9	52.7	51.1	44.5	46.4	42.4	43.1	46.7	-	46.4	49.1	-	39.7	43.5	36.6	63.5	67.4	60.7
7/4/2016	1:58:00 AM	51.9	52.7	51.1	43.3	47.7	41.6	42.3	44.9	-	46.0	56.0	-	43.5	52.9	37.3	62.9	68.5	60.4
7/4/2016	1:59:00 AM	52.0	52.9	51.1	44.0	46.7	41.6	44.4	48.3	-	46.7	59.3	-	49.5	63.1	39.0	63.2	65.7	60.2
7/4/2016	2:00:00 AM	52.0	53.0	51.1	44.6	47.0	41.8	43.2	46.4	-	45.7	57.1	-	54.3	68.8	40.5	62.4	65.5	60.1
7/4/2016	2:01:00 AM	51.8	52.6	50.9	42.9	45.2	40.4	43.1	45.9	-	46.0	51.3	-	46.7	57.2	38.6	62.6	64.6	60.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	2:02:00 AM	51.8	52.7	51.1	42.0	44.0	40.0	42.9	44.9	-	47.2	52.3	-	39.9	44.0	35.8	63.2	66.0	59.6
7/4/2016	2:03:00 AM	51.8	52.8	50.9	43.1	52.2	41.0	42.6	45.0	-	45.9	48.5	-	47.9	63.1	36.3	62.4	65.3	59.8
7/4/2016	2:04:00 AM	52.0	52.9	51.1	42.8	48.1	40.8	41.5	44.3	-	45.3	49.5	-	38.0	49.9	35.0	62.9	65.5	60.6
7/4/2016	2:05:00 AM	52.1	53.0	51.3	43.0	45.3	40.7	41.5	43.9	-	45.4	51.3	-	38.1	42.4	35.1	62.3	66.3	59.3
7/4/2016	2:06:00 AM	52.0	52.8	51.3	41.2	43.0	39.8	42.0	45.1	-	46.2	51.1	-	38.5	43.0	36.0	63.0	67.9	60.2
7/4/2016	2:07:00 AM	52.1	52.9	51.2	40.6	44.0	39.2	42.7	45.2	-	44.4	47.5	-	38.5	43.9	35.1	63.0	65.5	60.3
7/4/2016	2:08:00 AM	52.1	52.9	51.3	41.7	44.0	39.4	42.9	45.0	-	44.3	48.3	-	38.7	43.4	35.3	62.7	65.7	60.7
7/4/2016	2:09:00 AM	52.1	52.8	51.3	41.4	43.3	39.2	42.7	51.3	-	45.5	51.5	-	39.1	45.6	35.6	63.0	65.4	60.2
7/4/2016	2:10:00 AM	52.0	53.1	51.1	42.0	44.4	40.0	41.7	45.7	-	46.6	53.4	-	37.9	40.8	35.5	63.0	65.4	60.6
7/4/2016	2:11:00 AM	51.9	52.7	51.0	41.3	43.1	39.6	41.8	43.5	-	47.6	55.5	-	38.4	43.3	35.7	62.4	65.3	60.2
7/4/2016	2:12:00 AM	52.0	52.8	51.3	41.4	43.3	39.7	42.5	52.1	-	46.2	54.0	-	38.9	44.4	36.2	63.0	67.3	60.7
7/4/2016	2:13:00 AM	52.0	52.7	51.1	42.6	45.4	40.2	42.0	48.4	-	45.2	51.1	-	38.6	41.3	36.0	64.1	66.5	61.6
7/4/2016	2:14:00 AM	51.9	52.8	51.1	44.5	46.2	42.3	43.2	47.7	-	44.2	47.3	-	40.5	45.4	36.5	62.8	68.7	60.1
7/4/2016	2:15:00 AM	51.9	53.0	51.0	44.3	47.9	41.8	42.8	46.3	-	46.7	56.6	-	39.8	45.0	36.9	62.4	64.8	60.1
7/4/2016	2:16:00 AM	51.9	52.6	51.1	43.8	46.8	40.8	41.6	43.9	-	44.5	47.5	-	39.4	44.1	36.2	62.5	65.5	60.0
7/4/2016	2:17:00 AM	51.7	52.7	51.0	43.2	46.5	40.9	42.2	44.3	-	44.6	48.2	-	39.4	44.0	36.1	62.7	66.1	60.1
7/4/2016	2:18:00 AM	52.0	53.4	51.1	54.5	59.9	43.1	41.4	43.5	-	43.8	47.2	-	38.8	41.9	35.6	62.8	65.1	59.5
7/4/2016	2:19:00 AM	52.1	53.2	51.3	54.2	60.9	43.8	41.9	43.8	-	43.9	50.3	-	39.1	43.4	34.4	62.7	68.5	60.5
7/4/2016	2:20:00 AM	52.1	53.1	51.3	45.7	49.4	42.1	42.9	47.3	-	43.4	45.8	-	38.7	42.8	36.3	63.5	66.5	61.7
7/4/2016	2:21:00 AM	52.1	52.9	51.2	41.5	44.5	39.7	44.1	57.6	-	44.3	49.1	-	38.0	41.7	35.8	62.2	66.1	59.9
7/4/2016	2:22:00 AM	52.0	52.9	51.1	40.9	43.6	39.6	44.2	52.9	-	44.3	53.4	-	38.0	43.0	35.8	62.8	65.7	60.1
7/4/2016	2:23:00 AM	52.2	53.1	51.3	40.7	42.0	39.3	42.3	44.0	-	44.8	49.1	-	45.6	57.2	36.2	63.4	66.1	61.6
7/4/2016	2:24:00 AM	52.1	52.9	51.2	41.5	44.8	39.8	42.4	44.2	-	44.6	49.4	-	43.0	55.0	37.8	62.6	65.6	59.9
7/4/2016	2:25:00 AM	52.0	54.7	51.3	41.6	44.2	40.0	41.9	45.0	-	44.0	48.6	-	39.1	43.8	37.0	62.3	65.7	59.5
7/4/2016	2:26:00 AM	52.0	52.8	51.2	42.8	45.2	41.2	41.5	43.9	-	44.2	50.0	-	38.1	42.8	35.4	62.1	65.6	59.9
7/4/2016	2:27:00 AM	52.1	54.4	51.1	42.9	46.1	41.2	41.0	42.8	-	43.7	49.1	-	39.3	44.6	36.8	62.1	65.7	59.7
7/4/2016	2:28:00 AM	52.1	55.3	51.2	43.5	47.2	40.6	41.5	42.9	-	44.8	49.0	-	39.0	44.4	35.6	61.9	64.5	59.8
7/4/2016	2:29:00 AM	52.0	53.0	51.3	41.2	45.0	39.5	41.3	43.6	-	43.7	47.5	-	38.7	43.5	36.3	62.1	65.0	58.7
7/4/2016	2:30:00 AM	52.0	54.7	51.2	40.7	43.0	38.9	42.0	45.6	-	45.5	50.6	-	38.6	47.5	36.2	62.6	65.0	60.5
7/4/2016	2:31:00 AM	52.0	55.5	51.1	41.4	43.3	39.3	41.3	42.9	-	44.7	49.0	-	38.7	46.0	34.5	61.2	64.3	58.4
7/4/2016	2:32:00 AM	52.0	53.1	51.2	41.4	43.5	39.6	40.6	42.9	-	46.9	55.7	-	39.2	48.5	36.6	61.5	63.7	59.2
7/4/2016	2:33:00 AM	52.0	52.9	51.1	41.5	44.8	39.8	41.6	49.1	-	43.7	50.3	-	39.1	43.7	36.2	61.6	63.8	59.5
7/4/2016	2:34:00 AM	52.1	53.1	51.2	43.3	45.0	41.6	42.0	46.9	-	46.3	49.9	-	40.1	45.6	37.5	61.6	64.8	59.4
7/4/2016	2:35:00 AM	52.0	52.8	51.1	43.2	46.0	41.3	42.7	58.5	-	46.8	51.3	-	39.6	45.1	37.3	62.5	66.3	59.5
7/4/2016	2:36:00 AM	52.0	52.9	51.2	41.6	43.9	40.1	40.4	42.7	-	45.4	50.2	-	40.1	43.9	37.2	62.9	65.6	60.3
7/4/2016	2:37:00 AM	52.0	52.7	51.1	42.5	45.3	40.2	41.7	44.1	-	45.6	54.4	-	39.7	43.9	37.4	63.1	66.4	61.1
7/4/2016	2:38:00 AM	52.0	52.8	51.2	41.8	44.4	40.1	40.6	43.6	-	44.4	53.9	-	39.7	44.1	37.4	62.0	63.7	60.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	2:39:00 AM	52.0	52.8	51.1	41.9	43.7	40.1	42.3	44.8	-	45.4	49.5	-	39.2	44.5	36.6	62.4	65.1	60.5
7/4/2016	2:40:00 AM	52.1	52.9	51.3	42.1	44.7	40.2	42.6	46.2	-	48.0	59.0	-	39.5	44.6	36.2	62.0	64.9	60.1
7/4/2016	2:41:00 AM	52.0	52.7	50.9	43.2	46.0	41.1	43.3	49.1	-	44.1	49.2	-	38.7	41.9	36.4	61.0	63.6	58.2
7/4/2016	2:42:00 AM	52.0	53.1	51.1	42.7	46.4	39.8	40.7	43.7	-	42.3	48.1	-	39.4	45.3	36.5	61.3	64.0	59.1
7/4/2016	2:43:00 AM	51.7	52.8	50.9	41.9	46.3	39.8	41.6	43.2	-	44.3	49.0	-	38.3	42.4	36.5	61.1	63.7	59.1
7/4/2016	2:44:00 AM	51.7	52.6	50.9	43.2	47.8	40.5	41.1	44.4	-	44.0	47.8	-	38.4	43.8	36.3	61.2	63.9	58.6
7/4/2016	2:45:00 AM	51.8	52.7	51.0	46.1	55.7	40.0	40.3	41.9	-	44.1	49.5	-	38.4	41.3	36.6	60.5	62.6	58.3
7/4/2016	2:46:00 AM	51.8	52.8	51.1	42.8	45.3	40.2	41.5	47.4	-	42.9	47.2	-	39.7	44.3	36.5	60.6	63.4	58.0
7/4/2016	2:47:00 AM	51.9	52.6	51.0	43.2	45.0	41.1	40.2	43.4	-	44.4	51.7	-	43.5	50.4	38.7	60.9	63.8	57.8
7/4/2016	2:48:00 AM	51.9	52.7	51.1	43.2	45.0	41.2	40.6	42.3	-	44.4	49.3	-	40.0	44.8	37.0	60.8	63.8	58.6
7/4/2016	2:49:00 AM	51.8	52.6	50.9	42.6	44.8	40.8	41.2	46.0	-	43.2	47.8	-	37.7	41.3	35.4	61.8	65.6	59.0
7/4/2016	2:50:00 AM	52.0	52.8	51.2	42.2	45.4	40.5	40.7	45.2	-	44.9	49.3	-	38.9	44.7	36.0	61.1	64.9	58.2
7/4/2016	2:51:00 AM	52.2	53.6	51.3	41.8	48.2	39.8	41.9	48.9	-	45.3	49.8	-	38.0	43.4	35.0	62.4	66.4	59.5
7/4/2016	2:52:00 AM	52.1	52.9	51.1	41.2	48.4	38.7	41.1	43.4	-	44.3	48.9	-	38.8	43.2	35.7	62.4	65.7	59.1
7/4/2016	2:53:00 AM	52.0	52.9	51.2	41.0	45.0	39.3	40.3	41.6	-	43.4	49.0	-	40.1	44.7	37.3	62.6	65.4	60.5
7/4/2016	2:54:00 AM	52.0	52.8	51.0	40.4	45.0	38.5	41.4	44.6	-	43.9	52.5	-	39.1	42.9	36.6	62.7	65.7	60.6
7/4/2016	2:55:00 AM	51.9	52.6	51.1	40.2	44.1	38.3	41.3	44.6	-	43.9	48.2	-	38.8	43.1	36.3	61.4	65.6	58.5
7/4/2016	2:56:00 AM	52.0	52.9	51.2	39.9	44.4	37.7	40.6	42.0	-	44.0	48.0	-	38.4	42.8	35.7	62.0	65.6	59.3
7/4/2016	2:57:00 AM	52.0	52.7	51.2	39.6	42.0	37.8	40.7	43.1	-	43.3	47.2	-	37.5	40.6	35.3	62.1	65.3	59.5
7/4/2016	2:58:00 AM	52.0	52.9	51.2	39.4	41.5	37.2	41.1	44.0	-	43.0	48.1	-	38.4	44.2	36.0	62.0	64.9	59.4
7/4/2016	2:59:00 AM	52.1	53.7	51.1	38.9	40.7	37.3	40.8	42.8	-	46.5	51.4	-	39.4	43.5	37.1	62.5	66.0	59.6
7/4/2016	3:00:00 AM	51.9	52.8	51.1	38.3	40.2	36.8	41.6	46.7	-	44.4	48.1	-	41.6	49.9	37.8	61.6	64.0	59.0
7/4/2016	3:01:00 AM	51.9	52.8	51.1	38.4	40.6	37.1	39.7	41.4	-	45.2	49.8	-	45.0	56.5	39.4	61.9	65.6	59.7
7/4/2016	3:02:00 AM	51.8	52.8	51.0	39.4	41.8	37.1	40.1	41.7	-	42.7	46.3	-	47.8	58.4	39.4	62.6	66.1	59.6
7/4/2016	3:03:00 AM	51.9	52.8	51.1	39.8	43.7	38.0	40.6	43.2	-	42.2	46.8	-	48.5	62.6	38.6	62.1	65.1	59.2
7/4/2016	3:04:00 AM	51.8	52.7	51.0	40.4	44.6	38.2	42.6	48.8	-	44.9	49.7	-	46.3	57.9	37.5	61.3	64.6	58.2
7/4/2016	3:05:00 AM	51.8	52.5	50.9	41.5	44.8	39.6	42.0	44.6	-	44.2	49.9	-	38.7	42.9	36.1	62.1	65.0	59.7
7/4/2016	3:06:00 AM	51.9	52.8	50.9	42.0	44.7	40.1	41.2	43.4	-	43.6	47.2	-	39.3	42.6	37.2	61.9	65.2	59.1
7/4/2016	3:07:00 AM	51.8	52.7	51.1	41.5	52.9	39.6	41.0	43.2	-	41.6	44.4	-	39.7	44.0	36.9	62.4	65.7	59.0
7/4/2016	3:08:00 AM	51.8	52.8	51.0	41.1	43.6	38.9	40.6	42.2	-	44.4	49.4	-	39.5	44.2	36.0	61.9	64.8	58.0
7/4/2016	3:09:00 AM	51.7	52.6	50.9	40.4	42.0	38.6	40.3	43.0	-	44.7	48.9	-	38.5	42.1	36.0	61.9	64.1	60.4
7/4/2016	3:10:00 AM	51.7	52.6	50.7	41.6	43.3	39.9	41.5	44.5	-	43.7	47.8	-	37.9	43.0	35.0	63.0	66.4	61.1
7/4/2016	3:11:00 AM	51.8	52.7	51.0	40.9	47.7	39.1	42.4	44.9	-	44.7	49.5	-	39.1	46.7	36.1	62.1	65.3	59.8
7/4/2016	3:12:00 AM	51.9	52.8	51.0	42.0	44.5	39.9	43.2	53.9	-	43.2	47.5	-	39.3	45.1	36.6	60.9	66.3	57.1
7/4/2016	3:13:00 AM	52.0	52.8	50.9	41.7	44.1	40.0	42.4	45.2	-	45.0	50.8	-	39.0	42.4	36.8	60.7	64.3	58.3
7/4/2016	3:14:00 AM	51.7	52.6	51.0	42.2	44.6	40.5	41.6	44.1	-	46.9	54.8	-	40.0	49.0	37.1	61.4	72.4	58.6
7/4/2016	3:15:00 AM	51.9	52.9	51.1	41.6	44.3	39.7	42.1	45.6	-	45.0	49.6	-	49.1	63.3	39.6	59.9	62.9	57.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	3:16:00 AM	51.9	52.7	50.9	42.8	46.0	40.9	42.1	46.6	-	45.0	51.1	-	39.4	43.7	37.0	61.5	64.7	58.0
7/4/2016	3:17:00 AM	51.7	52.8	51.0	42.7	47.0	40.7	42.4	47.3	-	44.5	48.2	-	40.0	42.6	37.9	60.6	64.0	57.7
7/4/2016	3:18:00 AM	51.8	52.7	50.9	41.5	44.7	40.1	42.1	46.5	-	43.7	48.1	-	40.2	44.3	36.6	61.0	63.4	57.8
7/4/2016	3:19:00 AM	52.0	53.1	51.3	41.4	43.4	39.7	41.5	46.6	-	44.3	47.7	-	38.8	42.0	36.3	60.9	63.6	58.1
7/4/2016	3:20:00 AM	51.9	53.1	51.0	40.5	44.6	39.0	41.6	47.3	-	45.1	49.0	-	39.6	43.1	37.3	60.4	63.0	57.7
7/4/2016	3:21:00 AM	51.7	52.5	50.9	40.7	43.5	38.6	41.5	46.6	-	44.9	51.7	-	39.6	42.9	37.0	61.0	65.5	58.0
7/4/2016	3:22:00 AM	52.1	53.9	51.1	41.4	43.3	39.6	39.6	41.2	-	46.6	53.9	-	39.0	43.6	36.6	62.6	65.1	60.7
7/4/2016	3:23:00 AM	51.8	53.0	50.8	41.7	44.2	40.0	41.7	45.0	-	42.2	46.7	-	38.3	47.2	35.5	60.6	63.0	57.4
7/4/2016	3:24:00 AM	51.8	53.4	50.8	41.8	44.0	40.4	40.2	42.7	-	44.8	47.7	-	39.4	46.1	36.5	62.5	65.1	60.1
7/4/2016	3:25:00 AM	51.7	52.8	50.9	41.3	44.5	39.2	41.4	43.2	-	43.8	46.9	-	38.0	46.9	34.8	61.2	63.3	59.0
7/4/2016	3:26:00 AM	51.6	52.5	50.7	40.5	42.7	38.9	41.8	44.8	-	44.5	47.7	-	38.5	44.5	34.6	62.1	65.4	58.2
7/4/2016	3:27:00 AM	51.6	53.3	50.8	41.2	45.8	38.3	41.4	44.1	-	44.3	48.3	-	39.5	42.2	37.4	61.5	66.2	58.9
7/4/2016	3:28:00 AM	51.6	52.8	50.8	39.6	41.4	37.8	41.3	43.8	-	41.8	46.0	-	39.9	43.6	37.5	61.5	65.6	59.0
7/4/2016	3:29:00 AM	51.6	52.6	50.8	39.7	41.3	37.9	41.5	46.9	-	44.7	49.0	-	38.9	45.8	36.0	61.8	63.9	59.2
7/4/2016	3:30:00 AM	51.6	53.1	50.5	41.6	44.3	39.6	40.8	43.8	-	45.4	49.4	-	39.5	45.2	36.5	61.3	63.5	58.6
7/4/2016	3:31:00 AM	51.6	52.5	50.7	41.6	43.3	39.8	41.6	43.4	-	44.1	48.9	-	39.0	42.8	36.6	61.4	63.7	59.1
7/4/2016	3:32:00 AM	51.5	52.3	50.7	41.0	42.7	38.1	41.6	45.2	-	43.7	50.2	-	39.0	44.0	36.4	61.7	63.5	59.8
7/4/2016	3:33:00 AM	51.5	52.2	50.7	40.0	41.7	37.9	41.4	43.3	-	43.5	47.6	-	41.3	55.1	36.6	61.7	64.5	58.7
7/4/2016	3:34:00 AM	51.5	52.4	50.5	40.8	42.9	39.2	41.7	45.4	-	43.7	47.6	-	39.0	44.3	36.2	62.2	65.2	59.4
7/4/2016	3:35:00 AM	51.7	52.6	50.8	40.1	42.9	38.2	40.2	42.3	-	44.0	48.1	-	38.9	45.1	35.8	61.8	64.7	59.4
7/4/2016	3:36:00 AM	51.9	52.8	51.0	41.0	43.0	38.9	40.7	42.6	-	46.1	53.5	-	39.2	43.5	36.4	60.9	62.6	58.3
7/4/2016	3:37:00 AM	51.7	53.6	50.6	44.0	47.0	41.4	41.6	44.1	-	43.9	47.4	-	40.2	47.5	36.6	62.2	64.9	59.2
7/4/2016	3:38:00 AM	51.7	52.6	50.9	45.7	48.6	43.2	41.4	44.8	-	46.2	50.6	-	38.0	44.4	35.8	61.3	63.7	58.4
7/4/2016	3:39:00 AM	51.8	52.9	51.1	47.8	49.9	44.8	40.6	46.5	-	46.1	50.6	-	38.1	48.1	35.6	61.4	63.7	57.0
7/4/2016	3:40:00 AM	51.7	52.6	51.0	47.3	49.9	45.6	40.3	42.4	-	44.3	49.5	-	38.5	45.0	35.5	60.9	63.2	58.8
7/4/2016	3:41:00 AM	51.7	52.7	50.8	46.6	49.5	44.3	40.2	45.1	-	46.1	50.9	-	38.2	40.6	36.1	61.1	64.0	58.3
7/4/2016	3:42:00 AM	51.8	52.7	50.6	47.2	50.3	45.1	41.6	45.4	-	46.0	50.9	-	38.1	44.6	35.8	61.6	64.2	59.7
7/4/2016	3:43:00 AM	51.5	52.3	50.6	45.6	48.3	43.8	39.8	41.5	-	44.7	48.1	-	39.2	42.6	35.6	61.1	64.3	58.6
7/4/2016	3:44:00 AM	51.5	52.4	50.7	43.2	45.7	40.9	39.7	42.5	-	46.1	49.3	-	39.7	51.6	34.9	61.2	64.2	58.2
7/4/2016	3:45:00 AM	51.7	52.4	51.0	44.6	46.3	43.1	41.5	43.9	-	48.0	56.9	-	38.4	43.7	35.4	61.4	64.7	57.7
7/4/2016	3:46:00 AM	51.8	52.9	50.9	47.1	49.5	44.3	40.7	44.4	-	48.3	55.4	-	38.3	45.6	35.0	61.6	63.8	58.8
7/4/2016	3:47:00 AM	51.7	52.5	50.9	47.2	50.3	44.8	41.0	44.0	-	45.9	50.1	-	37.9	47.3	34.9	61.0	63.6	59.2
7/4/2016	3:48:00 AM	45.2	54.9	31.9	47.1	49.7	44.8	40.6	43.3	-	49.1	55.7	-	38.4	42.1	35.1	61.9	67.1	59.0
7/4/2016	3:49:00 AM	33.0	37.9	30.9	47.4	50.2	45.5	40.8	45.6	-	46.0	50.5	-	38.9	42.8	36.1	60.6	64.4	58.1
7/4/2016	3:50:00 AM	33.0	37.5	31.1	46.9	48.7	43.9	41.2	44.1	-	45.4	49.4	-	38.8	44.2	36.1	61.6	65.6	57.3
7/4/2016	3:51:00 AM	33.1	37.8	31.2	43.1	46.5	39.6	40.9	42.3	-	48.6	58.9	-	38.8	42.9	35.4	60.8	66.3	57.5
7/4/2016	3:52:00 AM	32.8	38.2	31.3	39.3	41.0	37.4	40.9	43.7	-	41.9	48.1	-	40.1	45.7	37.5	61.1	63.6	59.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	3:53:00 AM	34.1	38.2	32.2	39.6	41.3	38.0	41.2	44.8	-	45.2	52.7	-	46.4	58.1	38.1	61.5	65.1	59.0
7/4/2016	3:54:00 AM	32.5	36.8	30.4	39.6	41.8	38.1	40.9	48.2	-	44.0	48.4	-	39.6	47.3	37.1	60.6	63.6	56.9
7/4/2016	3:55:00 AM	31.5	37.0	29.8	39.9	41.2	38.4	41.8	46.3	-	44.5	49.4	-	40.1	50.7	36.9	61.2	64.6	58.8
7/4/2016	3:56:00 AM	31.6	36.5	29.6	39.0	41.5	37.0	42.5	47.6	-	45.1	51.5	-	39.6	47.6	36.8	61.5	64.7	58.4
7/4/2016	3:57:00 AM	31.3	36.5	29.5	40.9	42.4	39.1	41.4	56.9	-	46.3	50.6	-	38.9	43.1	35.6	61.5	64.3	59.2
7/4/2016	3:58:00 AM	34.4	51.1	30.1	40.5	43.3	38.1	42.6	47.0	-	44.5	49.8	-	40.3	45.9	37.3	61.6	64.7	59.1
7/4/2016	3:59:00 AM	37.9	50.8	29.6	41.0	43.3	39.2	42.1	45.5	-	43.7	47.3	-	40.3	45.1	37.0	61.3	63.8	58.8
7/4/2016	4:00:00 AM	33.7	45.3	29.3	39.6	41.5	37.5	42.3	44.5	-	44.1	48.0	-	39.4	53.2	36.5	61.0	63.2	58.6
7/4/2016	4:01:00 AM	34.0	41.5	30.9	39.2	42.8	37.5	41.8	43.1	-	44.7	49.6	-	36.8	39.8	35.0	61.6	64.5	59.4
7/4/2016	4:02:00 AM	32.0	38.1	29.6	38.8	40.2	37.4	41.8	44.2	-	46.3	54.1	-	37.7	41.5	34.8	62.0	64.7	60.2
7/4/2016	4:03:00 AM	30.5	35.6	28.4	39.4	41.7	37.2	41.9	43.7	-	44.3	47.9	-	38.9	43.2	35.8	61.8	64.4	59.8
7/4/2016	4:04:00 AM	31.9	37.8	28.9	41.3	43.5	39.1	41.8	44.0	-	44.0	47.9	-	38.3	44.5	35.0	61.1	63.2	59.5
7/4/2016	4:05:00 AM	33.4	48.3	29.5	42.7	45.6	40.7	42.1	44.1	-	45.1	49.6	-	39.5	48.2	36.0	60.6	64.9	57.1
7/4/2016	4:06:00 AM	33.5	37.8	29.5	40.9	42.2	39.6	42.1	44.3	-	45.5	51.4	-	37.7	42.9	35.5	61.7	65.3	59.7
7/4/2016	4:07:00 AM	34.0	38.4	31.5	40.5	42.2	39.0	42.4	45.2	-	43.8	48.9	-	37.5	42.9	34.8	62.2	65.5	59.4
7/4/2016	4:08:00 AM	33.1	38.5	30.3	42.1	44.0	40.1	42.3	44.3	-	45.6	51.4	-	39.0	46.8	35.6	60.5	63.7	56.9
7/4/2016	4:09:00 AM	31.9	40.6	29.1	42.4	43.9	40.9	43.5	46.9	-	44.2	50.6	-	37.7	41.4	34.4	61.0	64.4	58.4
7/4/2016	4:10:00 AM	38.9	48.5	30.0	42.7	44.2	40.9	43.0	47.9	-	45.2	48.6	-	37.3	44.1	34.2	62.3	66.4	59.3
7/4/2016	4:11:00 AM	33.6	39.9	29.5	41.3	43.5	39.7	43.4	47.2	-	43.4	55.0	-	40.9	51.2	36.1	62.1	65.8	59.7
7/4/2016	4:12:00 AM	33.6	36.9	30.6	41.4	43.1	40.0	43.1	47.8	-	42.6	49.8	-	39.6	44.0	36.6	62.3	64.6	60.5
7/4/2016	4:13:00 AM	34.5	38.1	31.6	41.4	43.8	39.9	42.2	44.9	-	46.9	54.9	-	39.4	42.6	36.9	61.9	65.6	59.6
7/4/2016	4:14:00 AM	33.7	37.1	31.3	41.0	42.9	39.0	42.2	44.6	-	46.2	51.5	-	39.7	47.0	37.0	61.4	64.3	58.3
7/4/2016	4:15:00 AM	32.7	37.4	29.8	40.4	42.2	39.0	42.7	47.1	-	46.1	49.7	-	38.2	41.7	35.5	61.6	64.1	58.8
7/4/2016	4:16:00 AM	37.8	48.9	31.8	41.1	42.8	39.2	43.2	47.1	-	47.5	53.5	-	38.7	42.6	35.6	60.2	62.4	58.4
7/4/2016	4:17:00 AM	35.3	39.4	33.0	40.8	43.9	38.3	42.6	48.1	-	47.1	49.9	-	38.5	43.0	35.5	62.1	66.1	59.6
7/4/2016	4:18:00 AM	36.5	43.3	33.1	41.5	43.8	38.6	41.6	44.9	-	46.0	51.7	-	38.5	42.4	36.0	62.5	64.9	60.7
7/4/2016	4:19:00 AM	41.1	46.4	35.1	40.3	42.0	38.6	42.2	45.8	-	44.6	50.7	-	39.1	43.5	35.7	61.5	64.3	59.3
7/4/2016	4:20:00 AM	43.6	48.3	38.5	40.2	44.5	38.5	42.3	46.2	-	47.5	51.2	-	38.2	44.3	34.9	61.3	64.8	58.6
7/4/2016	4:21:00 AM	42.5	47.7	37.9	42.3	58.0	38.9	41.1	45.6	-	46.6	53.1	-	39.5	43.1	36.6	60.8	64.4	57.8
7/4/2016	4:22:00 AM	38.0	40.0	36.3	47.6	60.7	39.4	41.3	44.5	-	45.3	48.8	-	38.6	41.7	36.2	61.2	63.3	58.6
7/4/2016	4:23:00 AM	35.4	38.7	32.5	41.4	44.7	39.1	41.0	45.0	-	46.2	50.2	-	38.1	40.6	35.7	61.4	63.3	59.3
7/4/2016	4:24:00 AM	32.4	39.6	29.3	40.7	43.0	38.7	42.1	46.0	-	46.3	50.8	-	39.1	41.5	36.9	61.6	65.8	58.6
7/4/2016	4:25:00 AM	33.6	44.5	29.1	39.5	40.9	38.4	41.2	45.4	-	46.7	51.3	-	38.4	41.2	36.5	62.1	66.0	59.6
7/4/2016	4:26:00 AM	39.0	52.5	28.7	41.1	43.6	38.9	43.2	48.0	-	46.2	49.8	-	37.3	43.0	35.4	61.1	63.0	57.9
7/4/2016	4:27:00 AM	37.5	51.1	29.5	41.7	43.7	40.2	42.5	46.2	-	45.1	49.3	-	37.5	42.3	35.1	61.4	63.9	58.8
7/4/2016	4:28:00 AM	32.8	38.5	29.3	44.0	48.9	39.8	41.0	45.3	-	45.1	51.3	-	37.8	41.8	35.6	61.8	64.7	59.4
7/4/2016	4:29:00 AM	33.6	41.2	28.2	40.2	44.3	38.4	41.6	45.6	-	46.7	52.2	-	37.7	40.2	35.3	61.3	66.4	59.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	4:30:00 AM	31.3	40.2	27.6	40.1	41.7	38.7	42.3	46.6	-	46.7	50.5	-	39.4	43.1	35.7	61.6	65.0	59.5
7/4/2016	4:31:00 AM	29.8	39.2	27.6	41.7	47.3	38.9	43.1	47.4	-	47.8	52.4	-	38.9	43.0	37.1	61.5	64.7	59.7
7/4/2016	4:32:00 AM	36.1	46.4	27.7	43.9	50.2	40.2	42.2	50.0	-	45.1	50.8	-	39.8	44.5	37.1	62.2	64.9	60.2
7/4/2016	4:33:00 AM	30.4	36.6	27.4	41.9	43.5	40.0	43.4	49.7	-	46.3	49.6	-	39.6	42.9	37.1	62.2	65.1	60.6
7/4/2016	4:34:00 AM	35.0	46.1	27.7	40.8	43.4	39.1	45.6	58.2	-	46.1	53.4	-	39.2	43.7	36.2	62.7	66.6	60.3
7/4/2016	4:35:00 AM	30.4	37.4	27.3	40.4	42.7	38.6	44.6	48.3	-	47.9	51.4	-	40.8	45.3	38.1	61.7	65.3	60.0
7/4/2016	4:36:00 AM	29.9	38.7	27.7	40.4	46.7	38.7	44.3	48.2	-	46.0	49.9	-	40.0	43.5	37.5	61.7	64.6	59.9
7/4/2016	4:37:00 AM	34.3	42.1	29.6	40.3	42.2	38.5	43.3	47.0	-	46.9	51.1	-	38.7	44.5	36.6	61.9	64.4	58.8
7/4/2016	4:38:00 AM	31.0	38.1	28.7	40.8	42.6	38.7	41.8	46.6	-	46.2	50.1	-	40.7	50.0	36.5	60.6	62.6	57.9
7/4/2016	4:39:00 AM	36.4	42.2	29.5	39.9	42.4	38.2	41.9	45.2	-	48.7	56.9	-	38.6	42.7	36.1	62.1	64.6	60.0
7/4/2016	4:40:00 AM	39.8	52.3	30.6	43.6	53.5	39.0	42.4	45.6	-	47.7	51.2	-	38.3	40.8	35.7	61.6	64.3	59.3
7/4/2016	4:41:00 AM	33.5	40.9	30.9	40.6	43.9	38.9	41.8	45.5	-	47.1	54.6	-	38.9	44.4	36.5	61.4	63.5	59.5
7/4/2016	4:42:00 AM	34.9	43.0	30.4	41.7	44.0	39.7	41.6	45.1	-	46.4	50.2	-	39.1	42.3	37.0	61.9	64.4	59.8
7/4/2016	4:43:00 AM	37.1	51.3	31.5	41.0	43.4	39.1	41.2	45.7	-	46.5	50.8	-	40.1	48.9	37.7	61.5	63.9	59.0
7/4/2016	4:44:00 AM	38.4	52.5	33.0	41.8	44.7	39.5	41.9	45.9	-	48.0	51.1	-	39.6	44.3	36.8	61.1	64.2	58.5
7/4/2016	4:45:00 AM	33.9	39.4	31.3	41.4	43.8	39.7	42.0	47.5	-	45.4	49.1	-	39.3	44.1	36.0	61.0	63.9	57.8
7/4/2016	4:46:00 AM	33.7	40.2	31.5	41.7	46.2	39.6	42.9	47.9	-	45.6	48.8	-	39.0	42.6	36.8	61.0	65.3	58.7
7/4/2016	4:47:00 AM	38.5	45.1	32.7	45.0	50.5	41.0	43.5	47.8	-	45.7	49.4	-	40.7	47.0	37.0	61.3	64.5	59.3
7/4/2016	4:48:00 AM	43.4	52.5	38.0	41.4	44.8	39.5	43.1	47.6	-	46.9	50.9	-	39.2	42.7	36.6	62.1	64.5	60.0
7/4/2016	4:49:00 AM	46.7	52.1	38.9	39.8	42.1	38.5	41.7	46.0	-	47.6	50.6	-	38.8	42.2	37.0	61.5	64.1	59.6
7/4/2016	4:50:00 AM	42.8	48.4	35.6	39.7	41.4	38.1	42.6	47.6	-	46.7	51.1	-	38.1	41.6	35.6	60.7	63.7	58.5
7/4/2016	4:51:00 AM	40.8	48.5	28.9	39.4	42.8	38.1	42.6	46.5	-	46.1	49.9	-	39.6	46.8	37.3	62.6	65.9	60.0
7/4/2016	4:52:00 AM	36.1	46.8	27.7	39.1	40.8	37.4	44.2	51.0	-	45.5	58.8	-	38.1	41.4	35.1	61.8	63.7	59.4
7/4/2016	4:53:00 AM	30.6	36.0	27.5	39.6	41.1	38.1	43.4	51.7	-	45.4	48.7	-	38.2	45.3	35.0	61.3	64.0	58.9
7/4/2016	4:54:00 AM	29.3	36.3	27.5	39.5	41.4	37.9	41.9	47.1	-	47.8	52.1	-	39.2	43.8	36.4	61.0	63.6	59.2
7/4/2016	4:55:00 AM	42.6	53.6	27.3	40.1	43.6	38.2	42.1	45.6	-	46.1	50.8	-	39.1	44.6	36.6	62.2	65.4	60.0
7/4/2016	4:56:00 AM	36.0	40.1	32.9	41.5	43.7	39.4	42.5	46.3	-	47.4	51.2	-	39.5	44.6	36.8	62.6	64.7	60.7
7/4/2016	4:57:00 AM	36.4	39.6	33.7	40.4	43.1	38.2	42.6	46.8	-	45.9	50.5	-	39.2	45.1	36.2	61.8	64.2	59.4
7/4/2016	4:58:00 AM	37.3	40.4	34.2	39.8	41.9	38.1	42.5	47.1	-	47.0	53.0	-	39.1	45.4	36.2	61.9	65.1	59.9
7/4/2016	4:59:00 AM	37.7	42.0	32.1	39.9	42.7	38.5	42.7	47.6	-	45.2	49.7	-	38.3	41.3	36.1	61.1	64.2	59.5
7/4/2016	5:00:00 AM	38.8	44.0	32.6	40.4	42.6	38.2	43.3	47.2	-	46.6	52.8	-	39.4	42.8	36.4	60.9	64.6	58.6
7/4/2016	5:01:00 AM	36.8	41.7	32.2	40.6	43.3	39.4	43.1	47.4	-	59.5	73.5	-	39.3	54.0	36.0	61.9	64.9	59.7
7/4/2016	5:02:00 AM	36.7	43.4	33.3	41.2	43.2	39.6	44.4	48.6	-	47.0	51.3	-	38.2	44.3	35.4	61.5	63.5	58.9
7/4/2016	5:03:00 AM	37.0	42.4	33.1	40.7	42.7	38.5	44.0	47.8	-	48.6	52.8	-	38.2	41.8	35.8	61.5	64.5	59.5
7/4/2016	5:04:00 AM	39.3	52.1	34.9	40.1	41.7	38.4	42.5	46.9	-	48.0	52.6	-	39.7	45.2	37.5	61.6	66.9	58.8
7/4/2016	5:05:00 AM	38.1	48.4	33.4	40.2	42.0	38.4	42.5	46.2	-	47.7	50.9	-	38.9	42.7	36.2	61.2	63.6	58.6
7/4/2016	5:06:00 AM	39.2	48.5	30.3	40.3	43.2	38.5	44.0	47.3	-	48.7	52.2	-	38.4	48.9	35.7	61.7	65.2	59.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	5:07:00 AM	33.8	48.7	28.2	39.5	42.0	38.0	42.9	47.2	-	48.1	53.6	-	39.7	44.5	36.3	61.2	65.4	59.1
7/4/2016	5:08:00 AM	33.6	41.5	28.6	41.9	46.6	38.6	43.4	47.1	-	48.1	52.7	-	41.4	47.2	38.9	62.4	69.7	59.4
7/4/2016	5:09:00 AM	34.0	46.7	30.9	41.3	43.9	39.2	43.3	47.3	-	48.8	53.5	-	41.1	44.8	38.4	63.8	70.8	60.5
7/4/2016	5:10:00 AM	35.5	49.8	31.8	40.4	42.4	39.1	43.4	46.6	-	46.7	51.8	-	39.0	41.8	36.8	63.0	68.3	60.5
7/4/2016	5:11:00 AM	35.0	49.0	31.8	40.7	43.0	39.3	43.5	46.5	-	50.6	55.3	-	38.6	43.3	37.1	61.2	64.2	58.2
7/4/2016	5:12:00 AM	42.6	53.1	33.4	40.8	43.8	39.1	44.1	48.4	-	49.1	53.7	-	38.8	42.2	36.6	62.2	65.3	60.2
7/4/2016	5:13:00 AM	38.2	47.5	33.3	41.2	43.0	39.6	45.0	48.1	-	47.9	51.6	-	40.0	44.8	37.0	61.7	64.0	58.8
7/4/2016	5:14:00 AM	44.1	53.5	35.3	40.7	42.9	39.3	43.7	47.3	-	47.4	51.7	-	40.3	44.6	37.9	61.0	63.1	58.5
7/4/2016	5:15:00 AM	40.8	47.6	34.8	40.6	42.3	39.2	44.3	48.6	-	47.5	50.9	-	39.3	41.5	37.1	62.2	64.6	59.6
7/4/2016	5:16:00 AM	42.0	51.6	34.9	40.5	44.1	39.0	44.0	46.5	-	49.0	54.7	-	39.8	42.9	37.4	62.8	76.1	59.8
7/4/2016	5:17:00 AM	41.9	49.2	37.0	47.4	65.4	39.9	44.0	47.5	-	49.0	53.0	-	40.9	45.3	38.4	63.0	67.6	59.9
7/4/2016	5:18:00 AM	43.0	52.7	36.5	47.9	58.6	40.1	45.8	49.8	-	48.9	51.8	-	40.7	45.1	38.7	63.1	65.0	60.9
7/4/2016	5:19:00 AM	40.0	49.5	34.9	46.3	57.5	39.9	44.0	48.1	-	48.8	52.6	-	39.4	43.4	37.1	62.5	64.7	60.7
7/4/2016	5:20:00 AM	37.9	41.9	33.8	45.7	57.0	41.1	44.6	49.2	-	50.9	55.7	-	39.7	43.8	37.4	63.6	67.6	60.4
7/4/2016	5:21:00 AM	41.9	49.4	34.6	50.3	62.6	41.2	44.1	51.0	-	48.3	53.7	-	40.2	49.5	37.7	63.2	68.5	60.2
7/4/2016	5:22:00 AM	37.6	48.6	33.5	49.0	57.9	41.2	42.9	45.8	-	52.1	63.1	-	41.8	49.6	37.5	61.8	64.0	59.8
7/4/2016	5:23:00 AM	36.4	43.8	32.7	43.0	44.7	41.4	43.6	46.1	-	49.4	54.7	-	40.7	44.5	39.0	62.8	65.9	59.8
7/4/2016	5:24:00 AM	39.8	56.9	33.7	43.0	47.9	41.3	42.9	46.7	-	49.4	55.0	-	40.4	51.3	37.9	62.1	64.7	59.1
7/4/2016	5:25:00 AM	37.4	51.6	32.1	42.2	43.8	41.0	44.3	47.0	-	51.7	56.0	-	40.9	44.7	38.7	62.9	65.7	60.8
7/4/2016	5:26:00 AM	39.9	50.7	32.5	42.4	43.9	41.0	44.4	50.5	-	49.8	54.5	-	41.6	44.7	39.1	62.6	64.5	61.1
7/4/2016	5:27:00 AM	42.4	53.5	33.3	41.9	46.4	40.2	45.6	57.8	-	49.8	54.8	-	41.9	46.6	39.5	62.3	64.6	60.1
7/4/2016	5:28:00 AM	48.4	59.4	32.2	41.7	44.2	40.4	45.2	52.7	-	50.9	55.2	-	41.8	48.6	38.6	64.0	73.4	60.1
7/4/2016	5:29:00 AM	36.6	43.4	31.1	41.5	43.9	39.9	45.5	53.9	-	50.7	54.4	-	50.8	69.6	39.3	62.0	64.5	59.7
7/4/2016	5:30:00 AM	40.1	48.4	35.0	41.4	42.8	40.1	45.6	52.4	-	52.2	57.4	-	41.2	44.0	39.1	62.3	71.1	60.3
7/4/2016	5:31:00 AM	38.8	48.2	35.6	41.6	43.5	40.1	45.2	52.1	-	52.3	57.1	-	41.3	43.2	39.1	64.0	75.6	59.9
7/4/2016	5:32:00 AM	44.9	57.1	36.0	41.5	43.3	39.8	45.0	48.5	-	53.4	58.4	-	41.5	45.1	38.7	62.4	65.7	59.4
7/4/2016	5:33:00 AM	43.6	55.4	35.3	41.1	42.9	39.7	44.3	53.4	-	52.2	56.3	-	41.1	46.2	38.3	63.3	67.5	59.1
7/4/2016	5:34:00 AM	50.1	62.4	36.4	41.3	42.9	39.6	45.8	49.4	-	51.2	54.7	-	43.4	51.9	39.4	64.1	70.3	60.7
7/4/2016	5:35:00 AM	41.8	59.6	33.1	41.4	43.1	40.1	47.6	56.9	-	51.8	55.5	-	45.5	56.5	41.2	62.2	65.0	59.0
7/4/2016	5:36:00 AM	42.2	61.1	32.3	41.8	44.0	40.0	52.5	60.8	-	53.0	57.1	-	43.7	51.2	40.8	62.3	65.8	60.5
7/4/2016	5:37:00 AM	37.6	50.9	33.3	41.9	43.7	40.0	51.5	57.8	-	53.0	57.6	-	41.8	48.3	40.1	62.3	64.8	59.8
7/4/2016	5:38:00 AM	51.5	70.2	33.5	42.0	43.4	40.1	45.1	52.5	-	53.0	60.9	-	51.0	65.3	40.8	62.4	65.3	59.0
7/4/2016	5:39:00 AM	40.5	53.2	34.0	43.1	45.8	40.8	44.9	52.2	-	50.4	54.0	-	43.3	47.6	40.8	63.4	66.6	60.6
7/4/2016	5:40:00 AM	41.1	51.7	34.6	43.1	54.7	40.6	45.9	53.3	-	51.2	55.6	-	43.1	47.6	41.1	62.6	66.1	59.7
7/4/2016	5:41:00 AM	39.6	55.7	34.2	40.8	42.3	39.4	45.8	51.8	-	50.8	55.8	-	42.5	46.3	40.2	62.8	65.5	60.2
7/4/2016	5:42:00 AM	38.3	49.3	33.9	41.8	44.1	39.2	46.8	55.6	-	52.8	56.2	-	41.7	43.7	39.3	62.7	65.3	59.9
7/4/2016	5:43:00 AM	40.2	53.3	34.3	43.1	45.1	41.5	45.0	50.5	-	53.9	59.2	-	42.0	48.5	39.4	61.9	65.6	58.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	5:44:00 AM	37.3	45.5	33.8	43.4	46.0	40.8	47.0	51.8	-	52.6	58.8	-	42.6	45.4	40.6	62.4	65.3	60.0
7/4/2016	5:45:00 AM	37.1	47.3	32.9	42.8	44.9	40.2	46.6	50.9	-	52.4	61.6	-	44.1	47.2	40.4	61.4	64.7	59.0
7/4/2016	5:46:00 AM	38.2	56.8	32.7	41.5	43.4	40.0	45.1	52.2	-	52.9	56.7	-	44.1	49.2	41.5	61.0	64.8	59.0
7/4/2016	5:47:00 AM	36.9	45.1	32.1	42.0	45.1	39.8	46.3	53.4	-	53.2	60.3	-	44.3	53.2	41.4	62.5	65.6	59.2
7/4/2016	5:48:00 AM	45.3	61.9	36.1	43.3	47.0	40.8	46.5	51.7	-	51.8	57.3	-	42.5	45.0	40.4	63.2	65.4	60.3
7/4/2016	5:49:00 AM	42.2	51.9	33.8	43.3	52.4	40.7	47.0	53.2	-	51.8	57.5	-	43.0	47.1	41.1	62.7	66.7	60.0
7/4/2016	5:50:00 AM	36.2	49.7	31.3	42.7	49.2	40.7	47.0	56.4	-	52.9	57.9	-	43.1	46.5	41.2	62.0	65.9	59.1
7/4/2016	5:51:00 AM	40.8	56.6	31.3	41.4	43.1	39.9	45.0	51.0	-	54.6	61.5	-	43.4	47.6	41.4	62.2	64.4	60.1
7/4/2016	5:52:00 AM	41.0	48.8	29.6	41.6	43.3	40.1	46.2	55.7	-	52.4	57.8	-	42.4	46.0	39.9	62.8	66.2	59.8
7/4/2016	5:53:00 AM	32.5	40.9	28.6	41.7	45.0	40.0	47.3	55.6	-	52.0	57.9	-	43.1	51.8	39.9	62.5	65.4	60.4
7/4/2016	5:54:00 AM	37.0	44.0	32.2	42.3	44.0	40.8	44.6	53.2	-	51.4	56.3	-	44.5	51.7	41.2	61.6	63.9	59.1
7/4/2016	5:55:00 AM	34.0	43.3	29.3	42.2	47.1	40.5	45.5	50.5	-	51.6	57.7	-	42.8	46.4	40.0	63.5	67.6	60.5
7/4/2016	5:56:00 AM	50.1	67.8	32.6	41.3	43.6	39.6	45.6	49.6	-	51.6	56.5	-	43.2	46.4	41.1	63.4	70.0	59.5
7/4/2016	5:57:00 AM	44.2	58.8	29.6	41.2	43.3	38.9	46.5	60.6	-	51.4	59.2	-	46.8	67.2	41.0	62.9	69.0	60.6
7/4/2016	5:58:00 AM	37.4	46.5	29.6	41.7	43.3	40.5	46.0	49.9	-	51.0	59.6	-	43.4	51.5	40.6	63.0	65.7	60.0
7/4/2016	5:59:00 AM	46.8	60.5	31.6	42.5	44.5	41.0	45.8	55.3	-	54.2	60.9	-	43.7	50.9	41.7	62.8	66.3	60.1
7/4/2016	6:00:00 AM	46.6	57.1	32.3	43.2	45.4	41.3	45.6	51.2	-	54.8	60.5	-	43.4	50.3	40.2	62.7	68.6	60.2
7/4/2016	6:01:00 AM	47.1	63.5	42.7	44.7	48.3	41.9	46.5	54.4	-	54.8	62.6	-	41.8	45.2	39.7	62.3	66.0	60.0
7/4/2016	6:02:00 AM	47.0	61.3	42.4	43.9	46.5	41.2	46.3	56.6	-	54.5	60.9	-	43.0	50.8	40.2	62.5	66.5	60.7
7/4/2016	6:03:00 AM	46.6	58.4	38.0	42.1	44.4	40.4	45.7	49.2	-	51.5	56.0	-	42.5	45.9	40.7	62.6	64.8	59.7
7/4/2016	6:04:00 AM	43.0	51.3	37.2	42.9	45.0	41.2	46.3	54.6	-	52.7	57.5	-	43.3	47.0	40.9	62.8	65.4	59.5
7/4/2016	6:05:00 AM	41.4	51.9	35.6	44.1	54.0	41.2	46.8	55.5	-	51.4	55.9	-	42.4	51.4	40.6	63.1	65.7	60.4
7/4/2016	6:06:00 AM	38.8	46.6	34.0	43.4	52.8	39.9	46.0	54.0	-	52.3	59.2	-	43.7	53.0	40.2	62.9	67.5	60.4
7/4/2016	6:07:00 AM	49.8	59.2	35.3	42.9	50.2	40.7	45.3	53.4	-	53.6	58.4	-	44.7	56.3	40.6	62.3	65.9	59.6
7/4/2016	6:08:00 AM	53.5	54.3	52.7	46.1	57.2	41.5	45.6	50.5	-	53.9	63.7	-	43.5	49.3	41.6	62.6	65.2	60.3
7/4/2016	6:09:00 AM	54.0	55.5	52.8	45.4	56.3	41.5	46.6	58.7	-	54.6	70.4	-	43.8	50.1	41.5	62.7	65.9	60.0
7/4/2016	6:10:00 AM	55.1	56.4	54.0	49.0	57.0	41.8	47.7	53.3	-	51.4	56.7	-	45.0	51.8	42.0	62.6	65.1	60.0
7/4/2016	6:11:00 AM	55.1	56.3	53.0	42.0	45.7	40.4	46.2	52.3	-	50.2	56.2	-	45.0	50.5	41.7	62.9	66.9	60.6
7/4/2016	6:12:00 AM	54.4	57.0	52.5	42.5	48.3	40.4	46.0	51.1	-	54.5	59.1	-	43.7	47.9	41.7	62.7	65.8	60.1
7/4/2016	6:13:00 AM	53.3	55.3	52.0	41.6	43.8	40.0	47.4	53.4	-	51.8	58.6	-	44.4	55.0	41.6	63.3	66.4	60.4
7/4/2016	6:14:00 AM	53.4	57.2	51.7	42.8	45.1	40.8	47.0	53.6	-	58.8	74.7	-	44.3	48.7	42.1	63.2	66.1	59.8
7/4/2016	6:15:00 AM	52.9	54.2	51.9	43.3	45.3	41.5	48.3	52.8	-	53.6	57.5	-	45.2	57.4	42.1	62.9	68.0	60.2
7/4/2016	6:16:00 AM	52.8	56.9	51.7	44.7	47.1	42.4	45.5	52.1	-	52.5	57.9	-	43.5	49.2	41.5	63.4	67.1	60.7
7/4/2016	6:17:00 AM	52.6	53.8	51.3	43.0	50.0	41.1	44.8	50.6	-	53.0	56.9	-	43.4	47.3	40.9	63.5	67.5	60.4
7/4/2016	6:18:00 AM	53.4	55.1	52.3	42.4	50.9	40.1	47.1	52.7	-	53.2	57.5	-	43.9	46.9	41.8	63.4	65.9	61.0
7/4/2016	6:19:00 AM	53.2	56.3	52.1	42.1	44.3	40.4	47.9	59.1	-	53.0	59.5	-	43.9	48.2	41.8	62.9	65.2	60.4
7/4/2016	6:20:00 AM	54.3	62.5	51.7	43.8	45.9	42.0	47.9	58.9	-	52.4	61.3	-	46.0	62.6	41.7	62.4	65.4	59.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	6:21:00 AM	52.1	53.4	51.1	44.4	46.0	42.7	47.2	53.8	-	51.3	57.1	-	44.2	47.8	41.2	63.1	66.0	60.7
7/4/2016	6:22:00 AM	52.4	54.4	51.2	47.5	50.1	45.0	47.4	58.2	-	52.5	57.7	-	43.7	48.7	40.8	63.4	67.4	60.6
7/4/2016	6:23:00 AM	52.5	56.7	51.6	47.7	50.4	44.7	46.5	56.2	-	51.9	56.9	-	44.3	52.8	41.8	64.0	68.2	60.6
7/4/2016	6:24:00 AM	52.6	58.4	51.6	48.0	49.9	46.1	47.0	55.2	-	51.6	55.4	-	43.3	48.5	41.4	63.3	70.2	60.3
7/4/2016	6:25:00 AM	52.2	54.0	51.3	47.7	49.5	46.2	47.1	54.4	-	51.2	56.2	-	43.8	47.6	41.7	63.9	69.9	61.0
7/4/2016	6:26:00 AM	52.3	57.3	51.3	48.2	50.1	46.4	49.3	54.8	-	50.5	54.2	-	43.9	47.5	41.3	63.0	66.4	60.4
7/4/2016	6:27:00 AM	52.8	60.5	51.2	50.1	53.6	48.1	49.2	53.2	-	55.0	63.9	-	44.2	52.5	41.3	63.0	65.8	60.1
7/4/2016	6:28:00 AM	52.4	56.3	51.4	51.3	53.7	48.7	48.3	56.1	-	51.5	57.8	-	43.4	51.5	41.1	63.4	66.7	60.7
7/4/2016	6:29:00 AM	52.4	53.8	51.4	52.1	57.1	49.1	50.7	61.8	-	51.3	56.6	-	42.6	47.9	40.9	63.2	66.7	60.6
7/4/2016	6:30:00 AM	53.1	62.4	51.6	60.3	69.4	50.9	49.1	65.1	-	51.8	57.5	-	43.2	49.5	40.7	62.5	66.8	59.6
7/4/2016	6:31:00 AM	52.7	56.3	51.5	64.9	77.1	52.7	49.8	60.1	-	51.6	54.6	-	43.7	51.7	41.0	63.4	66.4	61.4
7/4/2016	6:32:00 AM	53.1	58.8	51.7	61.9	77.8	50.0	47.5	56.7	-	51.8	56.0	-	43.3	48.5	40.4	64.1	67.8	60.7
7/4/2016	6:33:00 AM	53.1	56.3	51.6	63.3	73.6	49.3	49.8	59.3	-	50.6	54.5	-	43.1	46.1	41.3	63.1	67.9	60.6
7/4/2016	6:34:00 AM	52.7	57.3	51.5	59.8	67.3	50.8	49.7	59.1	-	51.1	57.1	-	43.8	49.5	41.1	63.8	67.9	61.0
7/4/2016	6:35:00 AM	53.1	56.4	51.4	63.2	71.6	48.9	47.7	56.3	-	51.5	55.1	-	45.2	53.8	40.7	64.5	67.7	61.8
7/4/2016	6:36:00 AM	54.0	60.1	51.5	60.3	69.2	50.6	50.2	60.0	-	50.0	55.9	-	44.8	51.4	41.8	63.5	67.9	61.2
7/4/2016	6:37:00 AM	56.1	66.6	51.6	56.2	62.9	51.1	48.1	58.2	-	52.2	57.7	-	46.5	55.4	41.6	64.3	68.6	61.1
7/4/2016	6:38:00 AM	53.0	57.2	51.6	58.2	70.3	51.4	49.9	54.5	-	53.6	60.1	-	51.2	72.1	42.6	63.3	67.3	60.5
7/4/2016	6:39:00 AM	52.9	55.8	51.5	61.4	71.6	49.5	50.4	55.7	-	72.3	80.7	-	48.0	53.8	42.4	63.8	67.2	60.3
7/4/2016	6:40:00 AM	52.3	53.3	51.5	61.8	74.0	51.4	52.7	61.3	-	52.2	54.8	-	44.6	50.2	41.8	63.2	67.1	60.9
7/4/2016	6:41:00 AM	53.0	56.7	51.4	65.2	73.5	50.2	50.5	57.2	-	51.7	55.2	-	47.5	57.8	43.2	63.8	67.4	61.1
7/4/2016	6:42:00 AM	52.9	58.2	51.4	61.8	70.8	47.5	47.9	55.7	-	50.7	53.9	-	44.9	52.8	42.2	64.0	68.0	61.4
7/4/2016	6:43:00 AM	53.3	61.7	51.5	62.7	71.9	46.2	47.4	54.7	-	51.4	55.3	-	43.8	50.1	40.8	63.0	65.7	60.7
7/4/2016	6:44:00 AM	52.9	57.3	51.2	54.0	61.5	44.5	47.7	53.1	-	50.9	54.0	-	42.1	45.9	40.4	63.9	68.2	61.3
7/4/2016	6:45:00 AM	54.6	61.8	51.5	66.8	77.6	44.2	50.5	66.1	-	52.8	63.5	-	45.6	54.0	42.3	63.9	67.9	61.6
7/4/2016	6:46:00 AM	52.0	53.3	51.0	54.1	63.3	46.1	49.2	58.5	-	51.6	57.3	-	44.9	47.3	42.2	63.1	67.4	60.7
7/4/2016	6:47:00 AM	53.2	59.4	50.9	46.8	53.0	44.5	47.8	61.3	-	51.0	56.7	-	45.7	51.4	41.4	64.2	69.8	61.2
7/4/2016	6:48:00 AM	52.8	56.1	51.3	48.2	53.7	46.1	50.4	61.0	-	50.4	56.5	-	43.0	53.1	40.6	64.0	66.7	61.4
7/4/2016	6:49:00 AM	52.2	54.5	51.0	62.0	73.4	45.3	49.2	62.1	-	52.9	57.5	-	45.2	50.5	41.0	63.5	66.9	61.4
7/4/2016	6:50:00 AM	51.8	52.9	50.9	58.4	69.8	46.1	50.0	61.6	-	51.8	57.6	-	43.6	52.7	41.7	64.2	68.6	61.0
7/4/2016	6:51:00 AM	53.0	56.7	51.2	63.5	71.7	44.7	48.7	54.3	-	51.9	57.9	-	46.6	56.8	41.7	64.2	67.2	61.8
7/4/2016	6:52:00 AM	52.8	65.4	50.8	62.2	72.9	46.9	47.2	55.1	-	51.5	58.2	-	44.6	53.0	41.8	64.3	66.8	62.0
7/4/2016	6:53:00 AM	52.6	55.7	51.2	55.5	62.7	43.5	47.8	54.3	-	50.5	55.0	-	53.1	70.2	41.8	64.5	68.2	61.6
7/4/2016	6:54:00 AM	52.7	56.1	51.1	61.3	73.6	42.8	50.5	60.5	-	50.4	54.2	-	44.4	48.3	41.1	63.5	67.0	60.8
7/4/2016	6:55:00 AM	52.8	67.5	50.9	56.5	64.1	47.1	47.8	51.4	-	52.3	55.9	-	42.8	44.9	40.6	63.6	68.4	60.3
7/4/2016	6:56:00 AM	52.5	57.1	50.9	46.8	56.2	42.6	48.4	53.2	-	50.3	54.6	-	44.7	49.8	41.8	64.2	67.7	61.3
7/4/2016	6:57:00 AM	51.8	55.5	50.7	61.0	71.5	41.0	55.8	64.0	-	50.4	54.1	-	46.0	51.8	42.1	64.1	67.2	60.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	6:58:00 AM	51.9	54.4	51.0	54.4	60.4	45.8	48.3	52.8	-	51.4	58.7	-	44.4	48.2	41.1	65.2	74.6	61.6
7/4/2016	6:59:00 AM	53.1	58.2	51.2	52.1	59.7	43.2	47.4	51.9	-	51.2	58.4	-	43.7	56.0	40.6	64.4	70.6	61.3
7/4/2016	7:00:00 AM	52.0	53.6	51.1	55.8	64.4	44.5	50.2	57.5	-	51.7	58.6	-	44.7	50.8	40.5	65.0	69.2	61.5
7/4/2016	7:01:00 AM	53.5	60.4	51.2	67.9	74.4	47.1	54.0	67.3	-	49.6	56.8	-	43.6	47.8	41.7	63.7	68.1	60.9
7/4/2016	7:02:00 AM	52.9	66.0	51.2	58.7	71.6	44.4	51.0	58.7	-	49.9	57.6	-	45.2	55.0	41.6	63.6	67.5	61.2
7/4/2016	7:03:00 AM	51.7	53.0	50.9	66.6	75.7	47.9	47.1	52.2	-	56.1	67.0	-	47.5	55.4	43.0	64.1	68.6	61.4
7/4/2016	7:04:00 AM	53.5	64.9	50.7	62.0	70.7	49.2	46.9	49.7	-	60.1	68.3	-	46.6	53.3	42.1	65.8	72.9	62.1
7/4/2016	7:05:00 AM	54.5	65.8	51.5	49.7	57.6	45.5	48.1	55.0	-	49.8	55.3	-	44.2	50.4	41.6	65.0	74.2	61.4
7/4/2016	7:06:00 AM	52.9	59.0	50.6	48.2	51.8	44.6	49.8	64.0	-	51.9	57.9	-	42.8	45.9	41.5	64.0	75.5	61.0
7/4/2016	7:07:00 AM	51.6	55.5	50.8	48.4	50.7	45.9	48.3	53.3	-	51.3	57.2	-	45.2	55.7	41.3	64.6	69.1	60.5
7/4/2016	7:08:00 AM	52.1	54.4	51.1	49.2	55.1	45.5	47.5	52.6	-	52.4	60.0	-	45.7	50.1	42.2	64.4	67.8	61.5
7/4/2016	7:09:00 AM	52.1	53.1	51.2	60.0	69.4	48.9	47.8	52.3	-	52.6	60.4	-	45.7	53.0	42.4	64.8	69.8	62.3
7/4/2016	7:10:00 AM	52.4	55.4	51.2	54.8	66.5	45.2	46.0	54.2	-	52.3	56.2	-	45.5	51.4	42.0	64.4	67.0	61.2
7/4/2016	7:11:00 AM	52.3	54.3	51.2	59.5	69.0	48.2	46.4	51.1	-	52.2	58.1	-	43.1	49.8	40.9	65.1	73.9	61.7
7/4/2016	7:12:00 AM	52.5	57.4	51.2	48.5	53.6	44.3	47.3	51.0	-	50.2	56.9	-	42.5	49.2	40.8	65.6	69.7	62.2
7/4/2016	7:13:00 AM	52.5	56.2	50.9	50.9	57.3	48.0	50.1	53.7	-	50.3	55.8	-	42.5	46.7	40.6	65.5	75.4	62.1
7/4/2016	7:14:00 AM	52.3	66.5	50.9	52.7	59.8	46.2	47.8	49.9	-	50.3	60.6	-	42.2	47.8	40.7	64.1	76.1	60.7
7/4/2016	7:15:00 AM	52.0	53.2	51.1	64.6	73.1	50.0	48.1	52.0	-	50.7	64.6	-	42.9	46.7	41.0	64.2	66.5	61.2
7/4/2016	7:16:00 AM	53.2	66.9	51.1	50.7	62.2	42.9	48.0	63.1	-	55.8	69.3	-	42.8	47.3	40.8	65.5	73.4	62.1
7/4/2016	7:17:00 AM	52.9	56.8	51.6	44.3	46.9	42.0	48.1	56.4	-	53.7	63.3	-	43.1	49.2	41.2	65.2	69.0	62.3
7/4/2016	7:18:00 AM	52.4	55.3	51.2	44.2	46.7	42.6	48.1	53.2	-	55.2	65.4	-	45.8	57.5	40.8	64.4	68.7	61.4
7/4/2016	7:19:00 AM	53.1	57.6	51.3	59.3	68.3	44.4	48.0	57.4	-	53.2	64.4	-	44.3	47.7	42.1	64.8	69.8	61.7
7/4/2016	7:20:00 AM	53.5	66.2	52.0	50.3	55.8	45.9	47.8	52.3	-	51.6	57.9	-	43.8	48.0	41.6	64.2	68.2	61.2
7/4/2016	7:21:00 AM	53.6	57.8	51.5	46.7	49.7	43.7	50.0	60.0	-	51.4	57.4	-	46.0	50.8	42.1	65.3	77.8	59.3
7/4/2016	7:22:00 AM	52.5	55.8	51.3	60.9	71.4	45.7	52.1	60.8	-	51.7	60.2	-	44.9	55.0	41.5	64.5	69.1	61.1
7/4/2016	7:23:00 AM	52.6	56.5	51.5	49.9	57.2	43.4	48.1	54.0	-	52.9	59.2	-	44.3	53.5	41.5	65.0	68.5	62.1
7/4/2016	7:24:00 AM	52.7	55.3	51.3	46.4	55.6	42.4	49.5	58.8	-	51.8	59.3	-	49.5	59.2	41.2	65.3	69.2	62.7
7/4/2016	7:25:00 AM	52.1	56.4	51.1	48.7	61.1	43.5	51.8	59.1	-	56.3	66.5	-	43.3	47.9	40.9	65.1	67.7	61.8
7/4/2016	7:26:00 AM	51.7	52.8	50.8	46.9	56.4	42.9	49.7	56.2	-	53.6	62.2	-	42.7	48.1	41.1	65.3	73.1	61.6
7/4/2016	7:27:00 AM	52.7	57.2	51.0	49.9	59.4	44.4	50.8	61.9	-	52.2	59.2	-	43.5	48.8	41.0	65.1	69.0	62.5
7/4/2016	7:28:00 AM	52.1	54.7	51.1	47.7	51.7	44.6	48.2	57.1	-	53.2	58.8	-	45.9	51.2	41.8	64.3	68.4	60.4
7/4/2016	7:29:00 AM	52.0	53.8	51.1	65.0	75.0	44.2	48.1	54.6	-	52.6	58.5	-	43.0	57.8	40.8	66.1	71.0	63.3
7/4/2016	7:30:00 AM	52.1	54.0	51.1	56.4	64.2	45.7	48.9	53.0	-	52.9	59.1	-	42.5	47.1	40.2	65.3	69.8	62.8
7/4/2016	7:31:00 AM	53.2	59.6	51.2	44.8	48.9	42.4	50.6	64.1	-	54.3	59.9	-	43.7	55.0	41.1	65.2	71.3	62.6
7/4/2016	7:32:00 AM	52.3	58.8	51.1	57.4	66.1	43.8	55.5	65.8	-	53.1	59.1	-	43.0	46.4	41.0	65.0	67.2	63.1
7/4/2016	7:33:00 AM	55.3	72.1	50.9	47.6	55.7	41.3	48.6	60.7	-	54.3	69.3	-	43.0	49.4	41.5	64.8	68.5	61.2
7/4/2016	7:34:00 AM	52.3	59.0	51.4	64.1	75.2	41.2	49.5	54.6	-	53.6	59.4	-	43.4	50.7	41.1	64.9	69.0	61.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	7:35:00 AM	53.8	61.5	51.4	56.9	66.8	43.7	47.1	52.2	-	54.5	59.9	-	45.7	50.1	41.0	65.5	69.2	62.5
7/4/2016	7:36:00 AM	54.6	59.1	53.2	44.6	49.4	42.1	48.0	51.9	-	53.6	63.4	-	43.6	53.4	40.7	64.9	68.6	62.3
7/4/2016	7:37:00 AM	53.6	55.0	52.6	43.8	47.2	42.0	51.0	57.2	-	51.5	59.5	-	44.1	47.5	42.4	65.7	70.0	62.3
7/4/2016	7:38:00 AM	52.7	56.2	51.3	43.2	45.2	41.4	46.8	52.6	-	51.2	55.9	-	44.6	48.6	42.8	65.1	70.9	60.4
7/4/2016	7:39:00 AM	52.3	53.3	51.5	44.6	48.9	42.2	50.0	61.4	-	51.3	56.2	-	44.2	51.3	41.6	64.9	68.7	60.2
7/4/2016	7:40:00 AM	52.3	54.2	51.4	45.6	49.2	43.0	47.4	57.5	-	51.3	55.6	-	45.8	58.0	41.8	65.1	68.9	62.7
7/4/2016	7:41:00 AM	53.4	56.5	51.8	66.1	75.6	44.0	46.0	52.9	-	51.4	54.9	-	44.0	49.4	42.0	64.8	68.5	61.4
7/4/2016	7:42:00 AM	52.6	54.3	51.6	63.5	74.5	47.1	49.1	53.2	-	49.6	56.1	-	45.0	53.7	42.0	65.5	70.1	61.5
7/4/2016	7:43:00 AM	53.2	58.5	51.6	61.5	71.1	45.8	46.7	54.3	-	49.7	53.0	-	43.9	54.6	41.4	65.0	69.0	62.8
7/4/2016	7:44:00 AM	52.4	56.5	51.1	48.6	59.3	42.3	47.0	53.5	-	51.1	56.4	-	43.0	54.9	40.8	65.8	69.6	61.2
7/4/2016	7:45:00 AM	52.4	57.7	50.7	45.5	52.8	42.8	51.8	68.4	-	52.9	61.1	-	43.8	53.8	41.2	65.4	70.8	61.4
7/4/2016	7:46:00 AM	51.8	53.5	50.8	44.6	51.3	42.3	50.0	69.8	-	50.4	55.8	-	43.5	49.1	41.5	65.7	69.4	62.9
7/4/2016	7:47:00 AM	52.9	58.7	50.7	45.0	57.4	42.9	53.3	70.4	-	50.9	57.2	-	46.7	51.2	42.6	65.6	69.8	62.0
7/4/2016	7:48:00 AM	52.7	58.0	51.3	47.8	53.8	42.9	53.0	73.6	-	52.4	58.2	-	45.9	50.6	43.1	65.5	70.8	62.3
7/4/2016	7:49:00 AM	53.2	59.1	51.4	61.8	76.1	42.7	51.6	60.6	-	53.0	59.9	-	47.5	51.5	44.3	65.5	72.2	61.5
7/4/2016	7:50:00 AM	53.0	60.8	51.5	63.8	72.8	47.3	47.4	57.5	-	50.1	57.4	-	45.1	53.1	42.7	66.6	70.1	63.8
7/4/2016	7:51:00 AM	54.0	61.4	51.8	51.0	63.3	45.0	49.9	55.8	-	49.4	54.6	-	44.9	48.2	42.7	65.8	70.7	62.3
7/4/2016	7:52:00 AM	55.3	61.9	52.3	67.6	79.2	46.9	50.0	57.7	-	50.3	54.3	-	44.2	48.8	42.4	65.8	69.9	62.9
7/4/2016	7:53:00 AM	53.7	62.1	51.7	67.4	77.3	44.7	57.3	70.4	-	50.1	53.5	-	44.1	47.9	43.0	65.3	70.6	60.5
7/4/2016	7:54:00 AM	52.8	56.1	51.5	59.0	70.4	49.1	48.9	56.8	-	50.6	55.3	-	44.0	46.7	42.2	65.5	68.9	61.7
7/4/2016	7:55:00 AM	66.9	75.2	51.7	45.5	53.9	43.0	48.4	54.2	-	50.4	53.9	-	44.4	50.6	42.1	65.9	70.9	63.5
7/4/2016	7:56:00 AM	59.7	72.5	51.5	47.2	57.9	43.2	50.7	65.6	-	50.1	53.1	-	45.0	47.3	43.2	65.9	69.2	62.4
7/4/2016	7:57:00 AM	54.3	62.8	51.6	47.7	58.0	43.7	58.0	70.2	-	49.3	53.5	-	44.3	46.7	42.4	65.7	73.3	61.7
7/4/2016	7:58:00 AM	52.4	54.4	51.5	50.9	62.4	42.9	62.3	73.4	-	50.5	59.2	-	46.2	51.0	42.6	65.8	69.9	62.1
7/4/2016	7:59:00 AM	52.4	58.9	51.6	46.7	50.5	44.1	54.1	70.6	-	52.2	60.4	-	47.0	53.0	42.9	65.4	69.5	61.7
7/4/2016	8:00:00 AM	52.4	53.5	51.5	52.1	65.5	44.5	53.4	71.4	-	49.4	53.8	-	45.1	60.5	42.9	65.7	71.1	60.2
7/4/2016	8:01:00 AM	52.4	54.1	51.5	61.2	71.4	43.8	56.3	75.6	-	50.6	60.0	-	45.8	57.1	41.9	65.7	70.8	60.3
7/4/2016	8:02:00 AM	52.1	54.2	51.0	54.5	64.1	45.8	50.1	62.1	-	50.1	54.8	-	47.2	57.5	42.3	65.5	69.7	62.5
7/4/2016	8:03:00 AM	53.2	60.0	51.3	47.2	52.1	44.4	50.9	67.8	-	50.4	57.6	-	43.9	52.2	41.6	65.8	69.3	62.2
7/4/2016	8:04:00 AM	51.9	53.3	50.8	46.6	50.9	44.0	55.7	74.0	-	50.4	58.1	-	43.2	45.8	41.4	65.4	72.6	62.8
7/4/2016	8:05:00 AM	51.7	53.3	50.9	62.5	70.9	45.4	59.8	78.3	-	50.0	56.0	-	45.9	54.7	42.7	65.0	68.2	62.1
7/4/2016	8:06:00 AM	53.4	63.6	51.1	52.6	63.5	46.4	64.6	79.9	-	51.2	57.8	-	43.9	54.0	41.9	65.7	72.8	62.2
7/4/2016	8:07:00 AM	54.6	63.9	51.1	51.1	56.8	46.9	65.8	74.8	-	52.0	58.5	-	45.7	50.2	43.0	65.6	70.1	62.8
7/4/2016	8:08:00 AM	52.8	58.1	51.1	50.8	59.5	46.7	67.4	79.4	-	52.0	59.4	-	44.2	48.0	42.6	66.2	70.0	63.1
7/4/2016	8:09:00 AM	52.4	54.7	51.0	51.8	58.4	46.7	63.2	73.5	-	50.5	60.8	-	44.5	48.7	42.2	65.5	70.8	60.9
7/4/2016	8:10:00 AM	52.4	57.6	50.9	60.8	70.4	50.5	64.9	76.6	-	50.0	57.3	-	44.5	53.4	41.6	66.1	71.2	62.8
7/4/2016	8:11:00 AM	52.4	56.9	51.0	57.4	65.6	47.6	64.8	71.5	-	51.1	58.3	-	46.2	51.1	42.7	66.7	71.5	64.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	8:12:00 AM	54.0	66.7	52.0	50.9	54.5	48.5	65.5	80.9	-	54.8	70.5	-	44.1	48.3	41.7	66.0	70.4	59.6
7/4/2016	8:13:00 AM	53.5	61.0	51.5	52.3	56.2	48.6	64.9	72.6	-	49.9	59.7	-	44.4	49.3	42.1	65.1	70.3	61.1
7/4/2016	8:14:00 AM	52.8	60.7	51.5	60.0	70.8	51.0	64.6	71.6	-	49.5	59.7	-	44.2	48.4	41.8	65.4	69.9	62.4
7/4/2016	8:15:00 AM	51.8	53.8	51.1	63.3	75.1	49.8	64.7	71.9	-	50.2	57.4	-	45.0	49.6	41.9	65.7	70.4	62.1
7/4/2016	8:16:00 AM	52.3	54.6	51.1	53.0	59.3	48.5	65.2	78.3	-	52.0	58.8	-	46.3	54.4	42.8	65.7	69.3	60.7
7/4/2016	8:17:00 AM	53.2	58.6	51.4	56.8	64.9	48.5	64.9	76.0	-	50.1	59.1	-	43.8	48.3	41.9	66.3	71.8	62.2
7/4/2016	8:18:00 AM	53.0	59.7	51.5	60.3	69.7	50.1	65.6	81.3	-	57.4	71.6	-	43.6	48.3	41.7	65.7	69.9	62.7
7/4/2016	8:19:00 AM	53.7	56.9	52.0	58.6	67.4	47.6	63.2	75.9	-	54.0	66.7	-	44.2	51.2	42.1	65.6	68.5	62.8
7/4/2016	8:20:00 AM	53.7	56.3	51.9	60.5	69.5	46.5	62.3	69.2	-	57.5	66.5	-	45.3	49.9	42.0	66.2	71.2	61.0
7/4/2016	8:21:00 AM	53.0	56.3	51.6	53.6	61.6	46.9	63.0	72.4	-	56.5	66.4	-	44.2	46.8	42.2	66.1	70.2	62.2
7/4/2016	8:22:00 AM	53.6	60.9	51.5	48.8	52.1	46.6	69.1	83.8	-	51.6	61.0	-	44.5	49.4	42.2	66.3	77.0	62.7
7/4/2016	8:23:00 AM	52.6	57.2	51.2	47.3	51.5	44.8	69.7	84.0	-	49.5	61.1	-	44.8	48.9	42.8	65.4	70.2	61.8
7/4/2016	8:24:00 AM	51.6	52.6	50.8	53.7	66.0	45.2	64.6	76.6	-	48.7	54.9	-	46.1	49.2	43.9	66.2	69.6	62.5
7/4/2016	8:25:00 AM	52.3	54.8	51.4	47.7	52.6	45.5	65.1	77.3	-	51.1	61.3	-	44.3	47.3	42.4	66.5	70.8	62.8
7/4/2016	8:26:00 AM	52.4	55.2	51.5	47.9	53.8	46.3	67.6	83.6	-	49.6	56.0	-	46.6	52.8	42.1	65.8	71.8	61.0
7/4/2016	8:27:00 AM	61.2	71.6	52.1	48.1	53.7	46.5	63.4	79.4	-	49.3	59.8	-	44.6	49.8	42.3	66.9	71.5	63.1
7/4/2016	8:28:00 AM	53.4	55.3	51.8	52.3	63.6	47.2	62.9	75.9	-	47.2	55.5	-	44.3	46.8	42.6	65.9	71.2	60.9
7/4/2016	8:29:00 AM	53.4	57.7	51.9	51.9	58.0	48.9	63.1	75.8	-	47.6	59.5	-	44.6	47.7	42.6	65.5	71.2	61.4
7/4/2016	8:30:00 AM	52.3	53.4	51.4	56.1	65.7	49.0	65.1	79.7	-	48.0	58.7	-	44.2	47.6	42.3	65.8	70.8	60.8
7/4/2016	8:31:00 AM	52.1	54.8	50.9	51.7	54.7	49.2	69.0	87.9	-	48.4	57.9	-	44.0	48.1	41.6	66.1	70.3	60.9
7/4/2016	8:32:00 AM	51.6	52.5	50.6	56.6	67.7	48.7	76.8	96.0	-	59.7	73.8	-	44.1	48.0	41.8	65.1	69.9	61.2
7/4/2016	8:33:00 AM	51.5	53.2	50.6	51.9	57.4	47.8	67.3	79.6	-	54.7	66.2	-	43.8	46.7	42.0	65.5	69.3	61.0
7/4/2016	8:34:00 AM	51.6	52.5	50.8	53.0	61.1	48.0	66.9	78.2	-	51.2	60.5	-	44.1	48.6	41.5	66.2	70.0	63.8
7/4/2016	8:35:00 AM	51.6	52.5	50.7	59.6	70.3	49.6	67.3	74.5	-	49.6	56.8	-	44.1	51.3	42.3	66.2	70.4	61.9
7/4/2016	8:36:00 AM	51.8	54.9	50.9	55.4	62.9	48.4	67.7	77.5	-	49.6	57.0	-	44.7	50.1	42.7	65.9	70.9	62.3
7/4/2016	8:37:00 AM	52.5	57.5	51.1	58.2	65.5	49.0	66.9	72.5	-	49.9	54.5	-	44.2	52.1	41.5	65.3	69.2	61.0
7/4/2016	8:38:00 AM	53.4	65.9	51.1	54.8	63.5	49.7	67.1	71.9	-	49.8	54.4	-	43.9	47.6	41.4	65.8	69.6	60.9
7/4/2016	8:39:00 AM	52.9	58.0	51.1	55.7	67.9	49.0	68.5	84.2	-	52.9	64.3	-	44.1	47.0	42.2	67.0	70.3	63.7
7/4/2016	8:40:00 AM	52.9	57.1	51.1	55.9	61.9	51.6	67.4	78.5	-	50.1	56.6	-	42.9	45.0	41.4	66.6	71.8	61.8
7/4/2016	8:41:00 AM	54.1	70.6	51.1	51.1	55.3	49.1	68.2	81.6	-	50.7	55.9	-	42.4	44.5	40.8	65.5	71.0	60.3
7/4/2016	8:42:00 AM	53.2	65.4	51.5	50.5	53.9	49.2	69.8	86.5	-	51.6	56.8	-	42.2	47.2	40.7	66.5	71.5	60.8
7/4/2016	8:43:00 AM	53.3	66.5	51.4	51.9	54.3	49.4	64.7	73.6	-	52.1	57.0	-	45.0	49.5	40.7	65.9	70.2	61.6
7/4/2016	8:44:00 AM	52.1	55.2	51.0	54.9	60.9	50.9	66.3	75.0	-	51.8	57.4	-	43.7	50.9	40.8	66.8	78.0	63.9
7/4/2016	8:45:00 AM	51.6	52.9	50.8	58.5	62.2	54.1	66.5	77.0	-	51.5	56.7	-	42.2	46.0	40.8	65.4	68.4	60.9
7/4/2016	8:46:00 AM	52.7	57.9	50.9	56.0	66.1	53.2	65.9	76.5	-	51.5	57.9	-	43.5	48.1	41.1	66.5	69.4	62.7
7/4/2016	8:47:00 AM	52.2	59.0	50.9	54.7	60.1	48.7	64.9	82.7	-	52.2	59.3	-	43.0	45.2	41.4	66.2	73.0	61.8
7/4/2016	8:48:00 AM	53.1	59.3	51.1	48.9	53.2	47.2	67.0	83.2	-	51.5	57.9	-	41.2	43.6	39.8	66.3	71.3	61.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	8:49:00 AM	52.3	55.5	51.1	48.9	50.4	47.1	67.1	81.8	-	51.8	59.1	-	41.7	46.2	39.8	67.4	72.3	62.6
7/4/2016	8:50:00 AM	51.9	56.9	50.9	58.5	69.1	47.2	69.4	85.2	-	51.3	57.0	-	42.4	45.1	40.2	66.2	72.1	62.0
7/4/2016	8:51:00 AM	52.3	55.2	51.2	54.1	60.6	48.0	66.3	70.6	-	51.7	59.1	-	42.2	45.6	40.4	66.0	70.6	62.3
7/4/2016	8:52:00 AM	54.2	65.5	51.6	51.3	61.8	46.7	66.6	76.6	-	56.3	66.2	-	42.0	43.9	40.4	66.8	69.8	62.6
7/4/2016	8:53:00 AM	57.4	72.4	51.4	62.3	71.3	46.5	68.2	78.4	-	51.9	60.8	-	42.4	47.9	40.4	66.1	69.4	63.0
7/4/2016	8:54:00 AM	54.7	68.3	51.7	59.7	71.3	48.0	63.4	69.4	-	52.8	59.9	-	41.8	43.8	40.0	66.4	70.4	63.6
7/4/2016	8:55:00 AM	54.6	60.2	52.3	50.2	54.6	48.4	67.1	82.3	-	52.2	55.9	-	43.8	48.3	41.4	65.7	72.9	60.7
7/4/2016	8:56:00 AM	53.4	57.7	52.2	50.8	58.2	47.6	67.8	83.9	-	51.9	58.4	-	46.7	53.1	42.4	67.1	73.7	62.8
7/4/2016	8:57:00 AM	52.9	56.1	51.6	59.0	67.3	51.3	66.7	72.3	-	51.3	57.1	-	44.4	50.8	41.4	66.9	76.3	62.4
7/4/2016	8:58:00 AM	53.7	59.3	52.0	54.2	58.7	50.3	64.4	85.9	-	52.6	59.9	-	43.3	52.6	40.2	65.5	69.4	62.4
7/4/2016	8:59:00 AM	53.9	66.2	52.0	57.1	62.7	52.9	63.2	75.7	-	52.5	58.7	-	46.5	51.8	41.5	65.9	69.6	61.7
7/4/2016	9:00:00 AM	53.5	66.6	51.4	55.5	60.9	50.4	66.8	73.2	-	51.9	59.3	-	42.5	47.9	40.4	66.5	71.0	62.7
7/4/2016	9:01:00 AM	52.7	67.1	51.2	52.1	54.9	50.3	67.0	75.0	-	50.8	56.0	-	42.5	47.0	40.1	65.4	70.9	61.7
7/4/2016	9:02:00 AM	51.9	56.9	50.9	52.1	59.0	50.3	64.8	75.1	-	51.7	57.4	-	48.8	55.6	40.6	66.1	70.5	61.3
7/4/2016	9:03:00 AM	52.8	66.7	51.3	51.7	59.5	48.9	66.0	71.3	-	53.0	59.4	-	46.2	53.4	40.9	66.1	72.2	62.0
7/4/2016	9:04:00 AM	53.8	60.1	51.1	49.9	52.3	48.2	67.6	75.0	-	51.3	57.0	-	45.3	53.1	41.3	66.4	71.3	62.0
7/4/2016	9:05:00 AM	53.9	59.7	51.4	49.0	50.8	46.9	64.8	76.1	-	51.7	58.7	-	48.6	70.7	40.6	66.8	71.2	63.3
7/4/2016	9:06:00 AM	53.8	62.2	51.8	54.1	62.2	46.6	66.7	75.7	-	54.3	63.4	-	42.7	47.2	40.2	66.2	75.6	61.9
7/4/2016	9:07:00 AM	52.7	61.1	51.7	60.2	68.7	48.8	66.3	74.1	-	54.5	66.6	-	42.4	47.1	40.2	65.5	70.8	61.7
7/4/2016	9:08:00 AM	53.4	59.6	51.7	60.0	66.4	51.5	66.0	72.1	-	53.9	69.1	-	42.8	48.0	40.5	66.8	70.6	62.3
7/4/2016	9:09:00 AM	54.7	68.3	51.9	55.9	64.1	50.1	58.6	69.7	-	54.1	58.4	-	43.2	51.7	40.7	66.6	74.2	61.5
7/4/2016	9:10:00 AM	54.0	59.9	51.8	57.3	70.6	49.6	63.4	73.7	-	55.2	60.7	-	43.3	48.7	41.3	67.0	71.4	61.9
7/4/2016	9:11:00 AM	59.8	82.6	51.8	59.7	71.9	51.4	65.7	74.1	-	55.3	59.1	-	42.6	48.5	40.5	66.0	68.8	62.0
7/4/2016	9:12:00 AM	67.3	84.7	52.8	51.6	54.9	48.9	66.3	74.0	-	54.3	61.0	-	43.8	56.2	41.0	66.9	70.9	62.5
7/4/2016	9:13:00 AM	52.9	61.4	51.3	60.8	69.3	51.0	66.5	78.9	-	53.5	60.3	-	45.6	51.1	40.9	66.5	71.4	62.2
7/4/2016	9:14:00 AM	56.6	63.9	51.4	56.4	60.4	51.1	65.7	75.2	-	54.3	61.7	-	44.7	60.9	40.5	67.0	71.3	62.8
7/4/2016	9:15:00 AM	55.4	63.8	51.4	50.8	54.5	48.5	66.4	72.7	-	53.4	61.6	-	43.7	48.2	41.1	68.1	72.3	63.2
7/4/2016	9:16:00 AM	52.0	55.5	51.2	51.6	57.1	48.5	68.4	79.8	-	53.4	58.9	-	42.5	48.2	40.5	67.1	72.5	62.4
7/4/2016	9:17:00 AM	55.4	64.0	51.1	50.7	57.0	47.8	67.5	74.0	-	53.9	60.8	-	41.8	46.7	40.1	67.5	73.0	62.7
7/4/2016	9:18:00 AM	52.6	56.1	51.2	50.6	56.2	47.9	65.8	71.9	-	55.0	64.3	-	42.8	47.1	40.9	66.7	73.6	61.3
7/4/2016	9:19:00 AM	57.2	75.8	51.4	50.6	58.2	47.2	66.7	73.3	-	57.8	71.7	-	43.2	48.5	40.9	66.2	71.3	61.9
7/4/2016	9:20:00 AM	54.7	70.2	51.4	53.7	63.8	48.1	67.0	74.5	-	53.4	59.8	-	44.2	50.8	40.8	67.4	72.5	61.8
7/4/2016	9:21:00 AM	52.5	59.2	51.2	53.0	61.7	49.2	64.8	72.2	-	54.3	60.9	-	42.5	45.3	40.5	67.0	72.1	62.3
7/4/2016	9:22:00 AM	52.4	59.1	51.3	53.9	57.5	50.2	67.6	72.9	-	54.4	59.0	-	42.9	49.3	40.7	67.5	70.8	62.9
7/4/2016	9:23:00 AM	53.1	60.3	51.3	56.0	67.6	49.1	67.1	72.0	-	54.8	62.3	-	43.3	58.2	39.7	66.8	71.3	63.8
7/4/2016	9:24:00 AM	53.1	65.1	51.4	54.9	64.2	48.4	65.9	69.7	-	52.7	63.5	-	42.2	53.6	39.2	66.9	70.4	62.7
7/4/2016	9:25:00 AM	57.9	79.2	51.5	55.3	61.3	48.8	63.1	70.1	-	54.0	60.2	-	41.5	49.0	39.1	67.7	73.1	61.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	9:26:00 AM	53.4	69.4	51.5	60.9	70.1	55.9	64.9	75.1	-	54.0	59.5	-	42.6	50.2	39.5	66.6	73.8	61.8
7/4/2016	9:27:00 AM	53.0	66.6	51.7	57.6	64.2	50.3	64.2	69.9	-	53.5	58.9	-	42.6	51.3	40.1	66.9	72.8	61.5
7/4/2016	9:28:00 AM	52.6	54.2	51.5	51.5	57.3	48.8	64.8	70.8	-	53.0	55.6	-	44.3	60.7	39.3	67.2	73.2	61.7
7/4/2016	9:29:00 AM	52.7	55.1	51.4	54.3	64.8	49.6	66.8	71.9	-	53.5	57.6	-	41.9	47.1	39.3	67.1	73.8	62.4
7/4/2016	9:30:00 AM	56.2	61.3	52.7	54.1	57.2	51.1	66.7	73.3	-	54.7	58.3	-	42.1	46.8	39.3	67.7	73.3	62.4
7/4/2016	9:31:00 AM	54.5	60.8	51.7	59.3	68.9	51.0	66.1	75.4	-	55.8	61.2	-	44.0	55.9	40.5	68.2	78.9	63.3
7/4/2016	9:32:00 AM	52.3	54.3	51.4	59.1	67.7	52.4	64.5	71.7	-	58.4	72.0	-	49.3	63.1	40.8	67.7	75.5	62.7
7/4/2016	9:33:00 AM	53.0	60.2	51.4	61.2	66.5	54.6	66.9	72.7	-	57.1	70.2	-	42.8	45.3	40.6	68.0	72.3	63.4
7/4/2016	9:34:00 AM	52.9	58.3	51.4	53.5	57.3	50.8	66.6	72.2	-	58.5	66.1	-	42.7	49.0	40.0	66.1	73.4	61.2
7/4/2016	9:35:00 AM	52.3	56.1	51.4	53.0	57.4	49.4	67.5	71.1	-	55.0	63.0	-	41.5	46.3	39.5	66.1	71.4	62.6
7/4/2016	9:36:00 AM	52.3	57.9	51.1	59.5	70.1	50.2	65.8	73.3	-	55.9	65.2	-	41.4	43.5	39.4	66.3	71.2	62.6
7/4/2016	9:37:00 AM	52.6	54.9	51.1	63.6	69.5	55.8	66.2	72.4	-	55.5	65.6	-	41.6	43.8	39.8	67.2	71.2	63.9
7/4/2016	9:38:00 AM	53.7	56.2	51.0	60.4	67.8	55.7	66.2	73.1	-	54.4	59.1	-	42.0	44.8	39.8	66.1	70.9	62.9
7/4/2016	9:39:00 AM	53.5	55.6	52.0	53.8	65.5	50.8	66.9	72.5	-	53.8	59.8	-	42.5	47.5	40.2	66.7	70.5	63.6
7/4/2016	9:40:00 AM	53.0	63.7	51.8	56.6	66.0	51.7	67.2	74.1	-	53.1	58.0	-	44.4	61.9	39.5	67.5	71.5	62.2
7/4/2016	9:41:00 AM	53.6	65.7	51.7	58.4	67.8	49.7	72.6	87.8	-	54.2	56.9	-	43.7	52.3	39.8	67.0	71.4	61.1
7/4/2016	9:42:00 AM	58.4	72.8	52.6	58.3	69.1	52.1	67.1	76.7	-	56.8	64.9	-	45.3	50.5	40.6	66.9	74.5	57.8
7/4/2016	9:43:00 AM	54.8	66.2	51.8	53.1	59.6	50.0	65.6	74.2	-	58.1	67.4	-	43.5	47.2	40.0	67.0	74.9	61.9
7/4/2016	9:44:00 AM	55.0	66.0	52.3	56.1	64.3	50.8	66.4	75.3	-	55.6	63.5	-	42.3	45.5	39.3	66.6	74.2	61.7
7/4/2016	9:45:00 AM	53.1	56.9	51.5	62.8	69.4	53.0	66.0	75.2	-	58.0	70.6	-	45.5	50.8	41.3	67.3	75.2	63.1
7/4/2016	9:46:00 AM	52.7	55.3	51.6	59.5	70.7	51.4	67.4	77.1	-	55.2	57.6	-	44.0	48.4	39.6	67.0	72.7	62.5
7/4/2016	9:47:00 AM	54.9	62.1	51.6	62.9	69.0	53.4	68.1	74.4	-	56.6	62.6	-	43.0	46.8	40.1	67.6	71.9	63.3
7/4/2016	9:48:00 AM	52.5	54.4	51.6	61.5	70.4	50.5	67.9	78.1	-	55.4	58.9	-	42.2	45.2	40.0	66.9	72.1	61.9
7/4/2016	9:49:00 AM	53.7	56.3	51.7	60.3	70.8	50.0	65.7	76.6	-	56.0	61.2	-	42.3	46.7	39.9	67.1	76.2	62.5
7/4/2016	9:50:00 AM	54.3	58.7	52.5	56.7	69.3	49.9	64.9	74.4	-	55.8	59.1	-	44.3	55.2	40.9	67.1	71.6	63.4
7/4/2016	9:51:00 AM	53.1	58.2	51.2	50.7	58.4	48.2	64.3	72.5	-	54.6	57.8	-	46.3	58.7	40.4	66.2	69.7	63.0
7/4/2016	9:52:00 AM	52.0	54.4	51.2	53.0	62.8	48.4	65.4	74.0	-	54.1	59.0	-	56.7	76.3	40.4	66.8	72.6	61.7
7/4/2016	9:53:00 AM	52.1	63.9	51.0	50.3	59.0	48.1	66.4	73.7	-	55.5	60.2	-	67.4	82.3	39.8	67.3	72.4	62.9
7/4/2016	9:54:00 AM	52.8	56.5	51.2	61.7	71.9	49.5	66.5	87.0	-	55.7	58.7	-	64.9	81.4	40.2	67.2	72.9	62.8
7/4/2016	9:55:00 AM	52.6	55.0	51.5	54.4	61.7	50.1	64.5	79.3	-	55.8	59.7	-	44.2	49.2	41.3	67.0	71.4	63.8
7/4/2016	9:56:00 AM	53.0	63.2	51.4	61.2	68.4	52.0	64.7	74.5	-	57.3	69.1	-	42.0	44.4	40.0	67.9	75.2	64.3
7/4/2016	9:57:00 AM	52.4	54.8	51.1	52.5	56.7	49.5	65.2	74.9	-	57.5	66.7	-	42.5	46.3	41.0	66.9	72.9	63.1
7/4/2016	9:58:00 AM	54.3	57.3	53.1	57.1	71.1	48.8	64.3	82.9	-	57.4	64.9	-	42.3	57.6	40.1	68.4	76.6	64.5
7/4/2016	9:59:00 AM	54.3	55.4	53.4	56.6	68.2	50.2	64.1	71.5	-	54.9	61.6	-	41.8	45.3	39.7	67.4	72.0	62.1
7/4/2016	10:00:00 AM	54.0	56.6	52.5	52.0	56.3	49.2	63.9	74.0	-	55.1	58.6	-	45.9	50.8	41.5	68.1	72.1	63.4
7/4/2016	10:01:00 AM	53.1	54.7	51.3	55.2	63.8	50.8	63.7	69.3	-	56.0	61.0	-	43.1	47.8	41.0	68.2	73.8	64.3
7/4/2016	10:02:00 AM	52.9	59.6	51.0	54.3	63.0	51.8	62.5	69.2	-	58.4	65.5	-	45.0	49.8	41.0	67.0	71.5	62.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	10:03:00 AM	54.6	63.9	51.5	56.6	65.7	52.3	64.2	72.0	-	56.0	59.1	-	43.1	46.7	40.9	67.7	72.2	63.7
7/4/2016	10:04:00 AM	52.4	53.8	51.4	52.2	54.3	50.5	65.1	70.8	-	55.4	58.7	-	42.7	46.2	39.8	67.8	74.2	63.3
7/4/2016	10:05:00 AM	52.6	56.8	51.5	54.5	59.9	50.6	62.5	70.0	-	56.7	60.6	-	42.9	45.0	40.7	66.3	70.6	61.5
7/4/2016	10:06:00 AM	52.6	54.5	51.4	57.1	60.5	53.2	62.0	71.8	-	59.6	70.2	-	42.3	46.2	40.4	66.7	74.1	62.9
7/4/2016	10:07:00 AM	53.9	68.7	51.6	64.3	73.2	54.4	63.8	70.9	-	60.2	72.6	-	42.8	51.5	40.1	66.8	72.4	61.9
7/4/2016	10:08:00 AM	54.3	71.4	51.8	64.3	70.5	55.8	64.7	70.5	-	58.2	67.1	-	44.4	50.4	40.5	66.8	74.7	62.3
7/4/2016	10:09:00 AM	54.1	62.8	51.7	57.6	68.4	51.8	63.1	68.7	-	57.0	61.2	-	50.5	60.7	42.4	66.4	72.8	61.7
7/4/2016	10:10:00 AM	52.8	58.4	51.5	59.0	66.7	52.1	63.7	69.9	-	58.0	65.6	-	43.7	48.4	41.4	66.2	70.9	62.9
7/4/2016	10:11:00 AM	52.9	58.5	51.5	61.8	68.7	55.4	63.9	71.0	-	57.2	65.5	-	43.2	47.2	41.2	67.0	71.0	63.5
7/4/2016	10:12:00 AM	52.7	54.7	51.6	58.5	66.2	51.7	66.1	70.3	-	56.2	59.3	-	43.4	46.8	41.0	66.6	77.2	63.4
7/4/2016	10:13:00 AM	52.8	56.6	51.4	54.3	57.2	51.5	64.7	72.8	-	56.7	60.2	-	43.2	48.8	41.0	67.7	78.0	63.0
7/4/2016	10:14:00 AM	52.3	54.9	51.3	58.4	66.2	53.6	65.3	79.2	-	56.4	59.2	-	43.4	49.1	40.7	66.7	70.5	62.7
7/4/2016	10:15:00 AM	53.6	58.7	51.5	58.7	64.5	52.3	65.9	72.5	-	56.9	60.8	-	43.6	48.4	41.2	67.4	72.0	62.8
7/4/2016	10:16:00 AM	54.1	60.1	52.7	60.7	71.5	51.7	65.4	72.2	-	57.2	64.3	-	43.0	46.5	40.7	67.0	75.6	62.6
7/4/2016	10:17:00 AM	54.1	58.3	52.7	61.5	71.7	53.2	62.6	67.8	-	58.2	66.2	-	46.7	51.6	41.8	66.9	73.7	62.9
7/4/2016	10:18:00 AM	54.2	58.8	52.5	55.3	60.4	51.7	62.9	67.2	-	57.7	64.2	-	43.2	46.3	40.8	66.6	73.1	62.5
7/4/2016	10:19:00 AM	54.1	57.8	52.7	60.4	68.9	52.7	64.1	69.7	-	58.2	65.9	-	43.2	47.7	41.0	66.5	71.0	62.6
7/4/2016	10:20:00 AM	56.9	66.0	53.4	53.7	57.1	50.1	64.6	71.7	-	57.6	61.5	-	45.7	51.3	42.0	67.2	73.8	63.5
7/4/2016	10:21:00 AM	54.3	59.0	53.1	53.4	55.4	50.7	67.6	81.3	-	57.3	63.0	-	44.2	48.6	41.8	67.2	70.9	63.9
7/4/2016	10:22:00 AM	53.9	55.1	52.9	57.8	61.9	52.3	60.9	69.4	-	57.7	66.2	-	43.5	49.4	41.2	67.4	70.7	63.0
7/4/2016	10:23:00 AM	54.3	59.0	52.8	57.6	65.9	52.7	58.8	71.3	-	60.0	69.3	-	43.9	48.6	41.9	68.1	73.3	62.9
7/4/2016	10:24:00 AM	54.2	60.1	52.9	62.1	72.3	54.0	64.3	87.4	-	57.3	61.6	-	43.3	50.0	41.5	66.7	73.2	61.1
7/4/2016	10:25:00 AM	54.4	58.6	53.1	61.5	71.0	52.0	59.2	70.4	-	57.6	68.5	-	46.5	50.8	42.6	67.7	76.0	62.8
7/4/2016	10:26:00 AM	54.5	59.3	53.1	54.3	58.3	51.3	60.1	74.6	-	57.5	61.3	-	43.9	49.3	41.8	67.3	72.7	62.5
7/4/2016	10:27:00 AM	54.4	59.4	52.4	55.7	66.4	49.7	56.4	67.7	-	57.7	61.8	-	43.2	46.5	41.0	67.1	73.6	62.4
7/4/2016	10:28:00 AM	53.6	56.9	52.3	67.4	78.6	53.4	57.0	68.4	-	57.4	61.2	-	44.8	51.3	41.9	67.6	79.7	63.6
7/4/2016	10:29:00 AM	54.5	59.6	52.6	54.9	61.6	51.2	57.0	68.1	-	56.6	64.5	-	45.9	51.9	42.4	68.0	82.7	63.2
7/4/2016	10:30:00 AM	53.8	55.4	52.7	55.0	58.3	52.1	57.1	72.6	-	56.8	60.5	-	46.6	50.7	43.4	75.5	87.8	64.0
7/4/2016	10:31:00 AM	53.7	56.4	52.4	59.0	70.1	52.5	58.7	78.1	-	57.0	62.4	-	45.2	50.7	41.9	67.5	73.1	63.4
7/4/2016	10:32:00 AM	53.3	54.3	52.3	62.0	70.9	52.8	56.8	68.2	-	58.9	72.9	-	44.7	49.0	42.1	67.3	77.3	61.7
7/4/2016	10:33:00 AM	54.1	57.4	52.3	58.7	67.4	52.0	59.1	69.1	-	57.1	65.5	-	45.3	53.3	42.7	68.2	75.4	63.6
7/4/2016	10:34:00 AM	54.5	58.3	53.1	52.0	54.3	49.6	61.1	72.2	-	57.7	62.3	-	44.2	47.2	42.0	69.7	84.6	65.4
7/4/2016	10:35:00 AM	53.1	57.8	51.8	55.7	65.5	49.5	58.5	68.1	-	57.4	63.4	-	44.4	47.6	42.1	68.1	77.4	62.9
7/4/2016	10:36:00 AM	53.2	58.5	52.0	58.4	66.1	51.2	61.4	77.5	-	58.0	64.9	-	44.7	51.0	42.6	67.7	72.4	63.2
7/4/2016	10:37:00 AM	53.4	63.7	52.0	54.4	60.5	50.1	62.9	80.0	-	57.2	60.2	-	45.5	50.4	42.2	67.3	72.3	63.4
7/4/2016	10:38:00 AM	53.3	56.9	52.0	57.1	63.3	51.1	60.1	72.8	-	57.1	60.9	-	47.4	51.3	43.4	66.8	72.8	62.2
7/4/2016	10:39:00 AM	55.1	63.5	52.6	54.5	60.8	50.1	60.2	72.7	-	57.3	60.8	-	44.8	48.1	42.6	66.7	71.4	61.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	10:40:00 AM	53.6	56.5	52.3	60.1	69.3	49.9	61.4	73.6	-	57.5	63.4	-	45.0	48.3	43.1	68.0	77.1	64.5
7/4/2016	10:41:00 AM	53.3	56.2	51.9	55.2	61.0	51.2	62.5	77.2	-	58.0	61.6	-	45.6	49.1	43.0	67.1	70.8	62.2
7/4/2016	10:42:00 AM	54.4	58.6	52.7	56.7	64.3	50.4	59.9	67.4	-	58.5	61.6	-	45.6	51.4	42.9	67.1	72.3	61.8
7/4/2016	10:43:00 AM	53.1	56.8	51.9	65.4	74.6	53.6	59.5	67.6	-	60.1	69.0	-	45.7	53.9	42.6	67.4	72.0	63.5
7/4/2016	10:44:00 AM	54.7	59.5	52.3	58.8	68.4	51.5	59.0	68.8	-	58.2	63.3	-	44.4	47.5	42.3	66.3	71.9	61.3
7/4/2016	10:45:00 AM	53.5	57.1	52.1	62.7	73.8	51.7	61.7	71.8	-	58.4	63.1	-	44.8	47.9	42.9	67.3	75.7	63.1
7/4/2016	10:46:00 AM	52.7	57.8	51.7	59.5	67.4	51.4	61.7	71.8	-	57.9	65.2	-	47.1	51.6	42.9	68.6	75.1	62.9
7/4/2016	10:47:00 AM	53.8	59.7	52.4	58.2	68.7	52.6	68.0	74.8	-	58.1	63.0	-	45.5	48.6	43.1	68.2	74.1	62.7
7/4/2016	10:48:00 AM	54.0	61.2	52.2	55.7	64.4	51.0	66.6	79.0	-	58.0	63.0	-	44.7	48.7	42.9	67.5	73.1	63.1
7/4/2016	10:49:00 AM	53.4	55.6	52.2	58.2	66.1	50.9	61.5	70.3	-	58.6	66.3	-	44.9	49.4	43.1	68.0	75.9	63.5
7/4/2016	10:50:00 AM	53.7	56.2	52.6	64.4	73.6	54.4	62.1	72.1	-	58.4	74.6	-	45.1	50.0	42.4	67.4	73.9	62.5
7/4/2016	10:51:00 AM	54.1	59.6	52.5	58.6	66.9	51.7	62.8	67.8	-	59.2	65.7	-	47.7	51.5	44.0	67.3	75.2	63.4
7/4/2016	10:52:00 AM	54.2	60.7	52.4	51.5	54.7	49.4	66.3	82.0	-	61.1	70.4	-	44.2	47.1	42.3	67.6	72.5	64.0
7/4/2016	10:53:00 AM	53.2	56.3	52.0	54.7	59.7	51.6	66.7	73.4	-	58.6	66.2	-	44.4	47.7	42.4	67.4	73.9	63.5
7/4/2016	10:54:00 AM	53.3	60.4	52.0	53.8	59.0	50.5	67.0	76.2	-	60.6	69.2	-	44.8	47.3	43.0	68.0	72.7	64.3
7/4/2016	10:55:00 AM	54.2	63.7	52.4	58.3	69.0	51.7	59.8	65.1	-	58.5	63.4	-	46.4	52.2	43.2	67.1	75.6	62.7
7/4/2016	10:56:00 AM	54.2	61.9	52.7	63.0	70.4	55.5	63.2	71.0	-	59.0	64.7	-	48.5	53.9	45.2	67.7	74.8	64.7
7/4/2016	10:57:00 AM	54.3	58.1	53.0	61.1	74.1	55.5	62.9	72.8	-	57.9	61.4	-	45.9	49.4	44.1	67.4	77.0	63.4
7/4/2016	10:58:00 AM	54.1	57.1	52.7	61.1	70.6	56.9	66.3	80.4	-	57.8	64.8	-	45.5	49.9	43.2	67.3	72.0	63.6
7/4/2016	10:59:00 AM	54.2	56.1	52.7	58.6	66.0	53.4	66.2	76.5	-	57.8	63.9	-	44.9	48.3	42.6	68.2	79.1	62.3
7/4/2016	11:00:00 AM	54.6	58.9	52.6	62.7	74.0	54.3	67.5	76.0	-	58.2	61.9	-	45.0	49.6	42.8	67.2	71.7	62.2
7/4/2016	11:01:00 AM	54.0	57.4	52.3	54.6	59.5	51.0	66.5	77.8	-	58.2	62.0	-	44.9	49.1	43.1	67.6	76.6	63.3
7/4/2016	11:02:00 AM	54.3	58.2	52.9	60.0	65.9	54.4	62.2	76.1	-	58.9	63.6	-	44.9	52.8	42.9	68.1	77.1	63.3
7/4/2016	11:03:00 AM	54.7	60.2	53.0	62.2	73.5	52.9	63.9	76.3	-	58.6	68.4	-	45.6	49.1	43.5	67.7	71.9	62.4
7/4/2016	11:04:00 AM	55.4	62.2	53.7	57.2	67.8	50.4	67.3	79.3	-	57.2	63.5	-	45.4	48.0	43.1	68.5	75.1	64.9
7/4/2016	11:05:00 AM	54.6	59.3	53.3	65.6	74.2	55.3	63.6	76.5	-	58.5	67.6	-	45.5	50.0	43.3	68.7	74.4	64.2
7/4/2016	11:06:00 AM	55.4	59.6	53.5	58.1	64.9	50.3	63.5	80.2	-	58.1	63.6	-	45.7	48.8	43.6	68.4	73.0	64.5
7/4/2016	11:07:00 AM	55.6	58.5	52.9	58.8	66.0	52.3	58.7	70.0	-	57.3	63.0	-	45.6	48.3	43.4	68.6	76.4	64.8
7/4/2016	11:08:00 AM	54.4	56.6	53.1	59.0	69.7	50.6	61.6	75.4	-	57.6	64.6	-	45.9	49.6	43.7	68.0	73.2	63.9
7/4/2016	11:09:00 AM	56.2	68.0	52.9	61.1	71.3	53.6	63.8	76.2	-	58.3	62.3	-	47.3	50.4	44.1	68.2	72.8	64.7
7/4/2016	11:10:00 AM	54.0	55.8	52.5	64.0	71.2	58.0	67.3	79.8	-	58.2	63.5	-	48.8	52.5	45.7	67.6	71.6	62.4
7/4/2016	11:11:00 AM	59.5	72.7	54.5	58.4	63.8	54.4	67.8	76.7	-	58.4	63.4	-	49.1	53.8	44.9	67.6	72.5	63.7
7/4/2016	11:12:00 AM	64.4	76.8	54.8	55.7	61.5	51.1	66.6	74.0	-	57.8	61.6	-	55.8	64.8	46.8	67.5	72.7	64.4
7/4/2016	11:13:00 AM	66.2	80.9	52.8	69.3	79.1	52.5	64.9	73.4	-	58.2	61.6	-	66.2	73.2	50.0	68.3	74.3	65.2
7/4/2016	11:14:00 AM	55.2	61.6	52.9	60.6	68.0	52.3	67.2	76.1	-	58.4	62.3	-	49.9	55.4	45.7	68.4	72.9	64.5
7/4/2016	11:15:00 AM	53.9	55.3	52.6	59.1	68.7	51.7	70.5	77.2	-	61.4	71.1	-	46.6	51.8	43.6	68.0	73.1	63.6
7/4/2016	11:16:00 AM	53.9	57.9	52.5	58.0	62.6	53.1	71.8	78.1	-	59.0	67.6	-	46.7	51.2	44.2	68.6	74.1	64.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	11:17:00 AM	54.1	57.3	52.9	61.2	69.8	51.0	71.7	78.4	-	59.0	67.5	-	47.5	52.0	44.4	68.4	74.4	64.4
7/4/2016	11:18:00 AM	53.7	55.0	52.7	57.9	65.6	51.8	71.9	79.4	-	59.2	67.5	-	46.2	51.3	44.1	68.5	73.4	64.0
7/4/2016	11:19:00 AM	54.8	58.3	52.4	56.7	64.7	49.7	73.3	80.1	-	60.2	69.1	-	47.2	51.3	44.5	69.8	81.5	64.5
7/4/2016	11:20:00 AM	53.5	56.3	51.9	58.5	69.9	50.1	73.6	83.0	-	58.1	61.8	-	46.8	52.5	43.6	67.9	74.1	64.4
7/4/2016	11:21:00 AM	53.5	55.8	52.0	61.4	72.0	54.5	69.8	80.5	-	58.2	60.4	-	47.5	53.1	44.2	70.3	81.7	64.2
7/4/2016	11:22:00 AM	54.7	58.9	52.7	59.3	65.5	54.5	69.5	77.7	-	58.7	63.1	-	46.4	51.2	43.7	69.6	79.9	63.7
7/4/2016	11:23:00 AM	54.9	59.2	53.2	58.3	64.8	54.3	69.3	77.5	-	58.3	68.8	-	47.0	52.1	43.6	70.4	81.9	64.5
7/4/2016	11:24:00 AM	54.1	57.2	53.0	66.6	74.0	56.7	71.0	77.9	-	56.9	61.6	-	46.6	52.4	43.5	70.2	84.5	64.0
7/4/2016	11:25:00 AM	53.9	56.4	52.8	62.9	73.6	52.3	70.2	79.2	-	57.7	59.9	-	45.7	51.1	43.1	71.9	86.2	62.7
7/4/2016	11:26:00 AM	54.4	56.8	53.1	55.9	61.7	51.5	71.4	79.5	-	57.9	60.7	-	47.7	52.4	43.8	70.4	87.4	62.6
7/4/2016	11:27:00 AM	56.0	67.9	52.9	56.3	59.4	52.6	72.3	81.2	-	58.1	64.0	-	46.6	53.4	43.9	69.6	83.1	64.5
7/4/2016	11:28:00 AM	57.1	62.4	53.2	59.6	66.1	54.8	70.7	79.9	-	58.2	63.0	-	46.2	51.2	43.6	68.9	79.8	62.2
7/4/2016	11:29:00 AM	60.9	68.8	54.3	56.2	63.0	52.2	72.4	78.6	-	60.1	66.8	-	47.2	50.8	43.6	68.0	74.6	64.2
7/4/2016	11:30:00 AM	54.7	60.3	52.3	54.5	58.1	51.8	67.2	77.3	-	57.5	62.7	-	46.4	50.2	43.3	70.2	80.9	64.8
7/4/2016	11:31:00 AM	54.2	59.0	52.5	60.1	66.5	52.6	70.8	79.8	-	58.0	63.0	-	47.4	53.0	43.8	69.1	77.6	64.7
7/4/2016	11:32:00 AM	54.4	56.7	53.3	60.5	68.1	55.8	71.3	78.8	-	59.1	71.7	-	46.0	49.0	44.2	69.0	75.9	65.0
7/4/2016	11:33:00 AM	54.8	58.2	53.3	58.7	65.1	50.8	70.7	75.3	-	58.1	61.6	-	46.0	51.0	43.3	68.5	73.3	64.4
7/4/2016	11:34:00 AM	58.4	73.4	53.6	54.9	61.8	50.1	69.1	79.0	-	57.7	60.1	-	45.9	49.9	43.6	68.4	75.6	64.3
7/4/2016	11:35:00 AM	54.7	60.6	53.0	53.0	57.6	50.3	70.6	82.9	-	59.6	71.0	-	45.5	51.3	43.4	68.5	72.4	64.8
7/4/2016	11:36:00 AM	53.7	58.4	52.2	64.9	73.0	50.9	70.9	82.7	-	60.7	72.2	-	46.1	52.0	43.6	67.9	72.6	64.2
7/4/2016	11:37:00 AM	54.0	63.0	52.5	63.0	68.8	57.7	71.0	80.6	-	58.0	62.6	-	46.6	51.4	44.6	68.3	72.5	63.4
7/4/2016	11:38:00 AM	61.6	79.4	53.3	67.6	76.7	58.0	71.9	85.2	-	58.3	60.7	-	46.4	50.1	44.1	67.2	71.2	64.0
7/4/2016	11:39:00 AM	54.1	60.7	52.6	58.4	64.5	54.1	70.6	80.2	-	58.0	63.2	-	46.2	50.4	43.7	68.5	74.4	64.0
7/4/2016	11:40:00 AM	56.2	61.5	53.2	58.2	61.9	54.3	69.4	81.4	-	59.1	64.3	-	46.3	53.6	43.6	67.9	81.8	63.4
7/4/2016	11:41:00 AM	54.3	57.5	53.0	56.1	62.5	50.9	69.7	83.7	-	58.6	62.5	-	46.0	52.5	43.3	68.2	78.6	63.5
7/4/2016	11:42:00 AM	54.9	59.3	53.0	53.8	57.9	51.0	66.8	77.5	-	58.6	61.4	-	48.9	53.8	44.3	67.2	74.8	63.5
7/4/2016	11:43:00 AM	54.9	60.2	53.2	74.9	85.3	53.9	67.4	77.4	-	58.9	67.0	-	47.4	55.1	44.2	67.9	72.4	64.9
7/4/2016	11:44:00 AM	54.8	56.5	53.2	59.8	68.8	55.1	66.2	72.6	-	58.8	65.5	-	47.7	56.4	44.7	67.9	72.3	63.2
7/4/2016	11:45:00 AM	54.6	57.7	53.1	62.2	72.3	54.8	67.2	79.1	-	59.9	67.9	-	49.0	53.7	45.5	68.6	73.2	65.3
7/4/2016	11:46:00 AM	55.5	57.1	54.3	59.8	67.3	54.4	67.5	79.3	-	58.9	66.0	-	69.5	81.2	49.1	68.4	79.4	63.1
7/4/2016	11:47:00 AM	58.9	66.8	53.3	59.8	72.6	53.6	66.7	72.4	-	57.5	61.3	-	52.0	59.1	45.6	67.6	73.9	61.1
7/4/2016	11:48:00 AM	54.1	55.7	52.9	56.7	66.7	51.8	63.4	76.2	-	58.0	62.3	-	47.3	51.2	44.5	68.4	77.7	64.5
7/4/2016	11:49:00 AM	55.4	61.7	53.5	60.7	68.1	52.6	66.3	73.3	-	58.1	60.3	-	47.2	52.7	44.1	68.0	75.4	64.0
7/4/2016	11:50:00 AM	54.5	58.1	53.3	55.7	62.6	52.2	65.5	74.3	-	58.8	63.0	-	47.4	52.4	43.5	69.2	74.4	64.2
7/4/2016	11:51:00 AM	54.8	60.8	52.9	59.4	69.8	51.1	67.2	74.4	-	58.4	64.6	-	47.2	53.9	43.9	68.2	73.7	64.5
7/4/2016	11:52:00 AM	54.1	55.7	53.0	56.1	60.7	52.9	63.4	72.2	-	58.2	66.2	-	48.3	54.3	45.0	68.1	72.2	63.6
7/4/2016	11:53:00 AM	55.5	61.3	53.3	55.3	60.8	53.1	64.5	74.1	-	58.1	66.2	-	48.2	54.8	44.5	69.0	74.1	65.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	11:54:00 AM	54.3	57.2	53.1	61.8	70.1	53.2	67.3	76.1	-	57.7	62.1	-	47.6	54.8	44.0	68.2	74.5	64.6
7/4/2016	11:55:00 AM	53.7	54.8	52.7	56.6	61.4	52.1	66.2	77.5	-	58.9	63.3	-	47.6	53.2	44.4	69.2	75.1	65.8
7/4/2016	11:56:00 AM	53.9	56.6	52.7	62.2	70.1	52.6	67.6	77.7	-	61.1	74.2	-	49.4	58.3	44.6	67.6	72.8	64.3
7/4/2016	11:57:00 AM	54.1	63.8	52.9	56.4	66.4	52.5	67.2	78.0	-	58.1	61.4	-	48.8	54.1	44.6	68.5	72.8	64.3
7/4/2016	11:58:00 AM	54.4	57.5	52.6	53.1	56.8	50.2	67.7	75.1	-	58.0	64.6	-	46.3	53.1	43.3	67.8	71.1	65.0
7/4/2016	11:59:00 AM	54.3	55.8	53.0	64.2	81.6	53.3	66.0	71.8	-	57.5	64.3	-	46.4	52.3	42.8	68.3	74.2	64.1
7/4/2016	12:00:00 PM	53.5	55.5	52.3	70.9	88.6	53.6	66.7	72.2	-	58.1	64.5	-	48.6	53.7	44.5	68.6	76.1	63.3
7/4/2016	12:01:00 PM	55.0	60.1	52.9	67.3	81.1	60.2	68.9	86.7	-	58.0	63.3	-	46.1	51.1	43.0	69.4	74.7	64.8
7/4/2016	12:02:00 PM	53.6	60.1	52.6	62.8	68.2	57.9	71.6	78.7	-	59.0	65.4	-	48.1	53.2	44.0	68.4	73.4	64.2
7/4/2016	12:03:00 PM	53.7	55.6	52.6	62.9	69.2	57.4	71.1	75.4	-	59.0	70.8	-	48.8	54.4	44.4	68.2	72.6	64.0
7/4/2016	12:04:00 PM	54.2	56.8	52.5	61.1	66.4	56.5	71.4	77.1	-	56.7	65.4	-	46.8	52.8	44.0	68.7	73.5	64.4
7/4/2016	12:05:00 PM	53.2	58.3	52.1	60.6	65.7	54.9	64.5	74.6	-	57.3	65.6	-	46.5	51.6	43.7	68.2	73.5	63.6
7/4/2016	12:06:00 PM	54.0	57.5	52.1	68.6	82.5	52.5	66.0	73.8	-	56.3	60.2	-	46.9	53.1	43.7	68.0	75.9	63.2
7/4/2016	12:07:00 PM	55.3	59.6	53.0	61.5	68.3	55.3	69.4	79.0	-	55.5	58.7	-	46.5	51.4	43.4	68.4	73.3	63.3
7/4/2016	12:08:00 PM	55.6	59.6	53.1	55.5	59.8	51.7	70.6	78.1	-	60.6	74.8	-	46.5	52.7	43.3	69.9	77.6	65.4
7/4/2016	12:09:00 PM	53.7	57.1	52.4	52.8	55.6	50.9	68.6	76.3	-	56.8	63.6	-	46.9	52.5	44.2	68.8	73.2	65.6
7/4/2016	12:10:00 PM	53.5	57.7	52.1	52.8	57.4	50.6	69.0	74.1	-	56.6	63.3	-	47.2	54.0	44.0	69.5	74.8	65.6
7/4/2016	12:11:00 PM	54.7	59.9	52.6	53.9	57.5	51.6	69.0	76.6	-	56.4	60.1	-	46.9	52.9	44.4	68.8	74.4	65.4
7/4/2016	12:12:00 PM	55.6	60.1	53.2	60.3	69.4	52.0	67.1	80.4	-	56.8	61.3	-	51.3	57.9	44.4	68.7	80.1	64.6
7/4/2016	12:13:00 PM	54.9	59.1	52.4	59.3	65.9	53.7	68.0	77.5	-	56.6	59.8	-	47.3	51.4	44.1	69.5	74.2	66.1
7/4/2016	12:14:00 PM	54.2	57.1	53.0	55.4	60.8	52.6	67.0	74.3	-	56.4	67.5	-	46.7	53.7	43.9	69.6	78.2	63.7
7/4/2016	12:15:00 PM	54.7	64.4	52.8	54.3	59.0	49.7	69.6	81.0	-	56.8	62.8	-	46.4	52.2	43.7	69.3	77.4	64.8
7/4/2016	12:16:00 PM	56.1	67.8	52.5	57.6	63.2	52.1	65.1	76.9	-	56.3	59.5	-	47.2	52.8	43.9	71.8	81.6	66.3
7/4/2016	12:17:00 PM	55.9	63.0	53.3	62.0	72.0	53.7	65.5	70.9	-	57.1	61.0	-	46.7	57.5	43.7	70.9	85.2	65.6
7/4/2016	12:18:00 PM	54.8	57.4	53.4	53.4	57.0	50.6	64.8	70.4	-	56.8	62.9	-	46.7	53.3	43.4	68.7	73.3	65.2
7/4/2016	12:19:00 PM	54.8	59.3	53.2	52.3	55.0	50.1	65.7	74.5	-	58.4	66.5	-	46.4	51.2	43.8	70.1	83.2	65.4
7/4/2016	12:20:00 PM	54.2	62.8	52.3	56.5	60.5	52.9	66.4	74.9	-	57.0	63.5	-	47.9	52.7	44.2	68.5	75.8	65.0
7/4/2016	12:21:00 PM	54.0	59.0	52.0	57.7	62.4	54.2	67.3	76.4	-	56.4	59.5	-	47.9	55.0	44.7	69.3	74.0	66.0
7/4/2016	12:22:00 PM	54.2	58.6	52.3	55.4	61.0	52.3	66.7	75.0	-	55.5	61.0	-	47.1	52.0	44.1	68.4	74.0	64.8
7/4/2016	12:23:00 PM	55.0	68.0	52.7	61.9	75.0	51.5	66.7	80.8	-	56.6	60.5	-	49.2	53.6	45.8	68.5	74.0	63.8
7/4/2016	12:24:00 PM	54.7	64.7	52.7	56.5	60.1	52.6	67.0	76.3	-	57.2	64.9	-	47.6	53.4	44.7	69.6	79.0	64.8
7/4/2016	12:25:00 PM	54.6	57.3	52.3	54.3	57.4	51.6	64.6	76.3	-	56.5	59.2	-	46.8	53.1	43.9	69.1	75.5	65.7
7/4/2016	12:26:00 PM	54.8	63.7	53.2	53.3	57.9	50.9	65.8	74.2	-	56.8	60.5	-	46.8	54.0	43.7	69.3	79.5	65.0
7/4/2016	12:27:00 PM	53.8	56.9	52.4	53.4	55.6	50.7	67.4	75.7	-	58.3	69.2	-	47.4	54.7	44.0	69.1	74.4	65.5
7/4/2016	12:28:00 PM	55.6	66.2	53.1	55.7	63.4	51.4	66.9	75.9	-	57.3	61.2	-	47.1	51.8	43.8	68.8	75.2	64.0
7/4/2016	12:29:00 PM	54.3	59.4	52.7	60.6	65.0	55.8	68.9	75.1	-	58.0	68.0	-	48.4	52.9	44.7	68.8	73.8	64.6
7/4/2016	12:30:00 PM	54.1	58.1	52.5	57.8	67.5	52.1	67.0	76.0	-	56.8	60.2	-	47.6	53.2	44.5	69.4	80.8	64.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	12:31:00 PM	54.7	58.3	53.0	53.4	57.1	51.0	68.1	78.0	-	57.2	60.4	-	47.3	53.8	44.0	69.4	75.4	65.3
7/4/2016	12:32:00 PM	57.7	68.0	53.4	52.9	56.9	51.0	68.0	79.4	-	56.7	67.2	-	47.6	52.9	44.1	68.9	75.0	65.5
7/4/2016	12:33:00 PM	57.9	72.6	53.1	59.9	66.9	52.7	68.7	77.4	-	57.0	63.2	-	48.7	56.9	44.7	69.0	77.5	64.8
7/4/2016	12:34:00 PM	59.0	72.4	53.9	58.1	62.9	54.7	71.8	91.0	-	57.3	61.7	-	48.3	54.1	44.7	68.8	76.4	65.3
7/4/2016	12:35:00 PM	57.0	69.8	53.8	56.4	62.1	52.2	66.9	77.4	-	56.9	59.0	-	48.2	54.2	44.7	68.6	73.7	65.1
7/4/2016	12:36:00 PM	57.8	66.8	53.0	63.1	72.4	54.8	68.7	77.5	-	57.3	63.8	-	48.1	55.6	45.1	67.8	72.3	64.8
7/4/2016	12:37:00 PM	54.5	57.9	52.7	59.0	67.2	54.1	66.7	75.4	-	57.8	66.4	-	48.5	53.8	44.6	69.0	78.8	64.6
7/4/2016	12:38:00 PM	55.7	63.0	53.5	56.9	65.6	52.1	65.2	79.3	-	57.7	62.6	-	48.3	55.4	44.6	69.0	76.9	65.8
7/4/2016	12:39:00 PM	53.2	55.2	51.8	62.7	67.5	57.6	63.4	72.2	-	56.8	62.9	-	47.9	54.0	44.5	69.3	75.2	65.8
7/4/2016	12:40:00 PM	54.3	61.4	52.4	65.6	72.7	54.7	65.8	72.7	-	56.3	60.2	-	48.6	54.7	44.8	69.0	78.6	66.6
7/4/2016	12:41:00 PM	55.7	58.5	54.0	58.3	62.4	54.3	70.4	85.7	-	57.6	65.1	-	48.5	54.0	44.8	68.8	73.2	66.0
7/4/2016	12:42:00 PM	54.7	56.5	53.0	61.3	71.9	55.6	69.0	76.1	-	56.4	60.7	-	49.5	55.1	45.6	68.4	77.2	64.8
7/4/2016	12:43:00 PM	58.3	67.9	53.7	63.9	72.1	56.1	71.5	83.0	-	56.1	58.8	-	49.0	53.8	44.7	69.6	77.4	66.4
7/4/2016	12:44:00 PM	55.8	62.6	53.2	60.4	66.9	54.7	68.0	75.7	-	57.4	61.9	-	49.1	55.6	44.5	69.0	79.9	64.3
7/4/2016	12:45:00 PM	54.7	62.7	53.1	57.3	63.1	53.6	67.7	80.7	-	57.0	60.6	-	48.4	54.7	44.3	69.5	75.9	66.0
7/4/2016	12:46:00 PM	58.7	68.6	53.8	61.8	71.7	57.1	66.3	77.4	-	56.1	59.9	-	49.1	58.0	44.3	68.3	75.3	64.9
7/4/2016	12:47:00 PM	58.8	72.2	53.3	57.8	61.6	54.2	67.9	77.8	-	57.1	63.8	-	48.5	55.8	44.7	68.9	72.3	65.6
7/4/2016	12:48:00 PM	54.5	57.9	53.2	58.7	66.4	53.0	65.6	78.8	-	59.2	70.6	-	48.9	54.7	44.4	68.2	73.9	65.1
7/4/2016	12:49:00 PM	54.8	65.6	53.2	55.4	62.3	52.1	70.2	77.4	-	57.1	61.6	-	48.3	54.2	43.3	68.5	75.4	65.9
7/4/2016	12:50:00 PM	54.9	58.3	53.6	56.5	64.5	53.1	71.8	77.8	-	57.5	62.2	-	49.5	56.1	44.9	69.6	75.0	66.3
7/4/2016	12:51:00 PM	55.4	60.9	54.1	57.8	60.8	55.1	71.8	78.5	-	57.8	62.8	-	49.5	55.3	44.5	68.7	76.1	65.8
7/4/2016	12:52:00 PM	56.0	61.0	54.4	56.5	61.4	53.2	75.8	90.2	-	57.7	63.6	-	49.2	55.6	44.8	68.5	73.4	65.4
7/4/2016	12:53:00 PM	56.8	61.9	54.0	60.4	67.6	54.8	73.9	85.9	-	58.8	73.9	-	49.7	55.8	45.4	68.9	74.0	66.4
7/4/2016	12:54:00 PM	55.7	57.4	54.1	59.0	62.2	54.6	71.9	86.2	-	56.6	61.9	-	49.1	54.0	45.3	68.6	74.1	65.5
7/4/2016	12:55:00 PM	56.8	61.4	54.7	61.5	69.3	54.2	69.7	78.2	-	59.1	68.3	-	49.5	55.4	45.2	68.5	76.0	64.9
7/4/2016	12:56:00 PM	55.7	63.1	54.2	55.7	61.3	51.0	68.7	79.5	-	56.1	60.0	-	49.4	55.1	45.1	68.5	74.1	65.0
7/4/2016	12:57:00 PM	60.8	70.6	54.6	52.9	57.9	50.6	69.3	77.1	-	57.4	64.7	-	48.3	53.8	44.2	67.9	71.3	65.2
7/4/2016	12:58:00 PM	55.7	67.0	53.9	58.2	65.7	52.2	70.1	79.0	-	56.5	62.2	-	48.5	54.0	44.4	67.8	72.5	65.1
7/4/2016	12:59:00 PM	55.5	68.2	53.7	59.4	69.5	53.3	69.7	76.8	-	56.1	62.4	-	48.3	53.0	45.2	67.7	71.8	65.1
7/4/2016	1:00:00 PM	56.6	68.2	54.3	62.1	66.3	57.0	68.9	82.3	-	57.3	61.3	-	48.5	54.4	44.8	67.9	72.7	64.9
7/4/2016	1:01:00 PM	54.3	57.9	52.9	64.8	70.6	57.9	67.7	77.6	-	57.1	59.9	-	49.7	55.3	45.6	68.7	77.6	65.8
7/4/2016	1:02:00 PM	55.0	61.7	53.2	67.6	73.5	58.9	67.2	74.9	-	58.1	67.0	-	51.4	56.3	46.9	68.6	74.9	65.5
7/4/2016	1:03:00 PM	54.2	57.4	52.4	67.1	76.4	59.4	66.8	76.3	-	60.0	71.4	-	48.6	54.2	43.9	69.7	79.1	65.9
7/4/2016	1:04:00 PM	55.7	60.4	53.7	62.3	67.7	57.1	67.6	75.1	-	58.1	63.8	-	50.5	55.2	45.2	69.4	78.5	65.5
7/4/2016	1:05:00 PM	56.2	63.1	52.9	62.3	67.3	57.6	68.0	81.2	-	57.2	60.8	-	48.5	54.5	44.7	68.6	73.8	66.1
7/4/2016	1:06:00 PM	54.8	59.5	52.6	62.8	69.6	56.6	69.5	87.6	-	57.9	62.7	-	47.8	53.3	44.1	68.6	72.0	66.0
7/4/2016	1:07:00 PM	54.9	59.7	53.1	57.2	61.0	54.0	68.4	75.1	-	58.4	67.3	-	48.3	54.1	44.2	68.2	74.5	65.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	1:08:00 PM	55.7	60.0	52.6	64.6	74.2	56.7	68.3	74.4	-	57.3	60.4	-	48.6	54.1	45.4	69.1	73.5	65.4
7/4/2016	1:09:00 PM	54.0	56.6	52.5	57.1	64.5	52.9	69.3	77.3	-	57.1	60.3	-	49.4	53.1	45.4	69.3	74.2	66.4
7/4/2016	1:10:00 PM	54.8	57.7	52.7	60.0	68.0	52.8	69.4	76.8	-	60.0	72.5	-	48.7	52.2	45.4	69.5	78.2	66.2
7/4/2016	1:11:00 PM	54.3	56.7	52.2	59.2	67.4	53.1	69.3	74.7	-	57.0	62.9	-	48.2	52.3	44.4	69.2	72.6	66.6
7/4/2016	1:12:00 PM	55.3	60.5	52.5	54.6	61.2	51.9	66.8	75.5	-	57.7	61.0	-	48.6	53.7	44.3	68.5	72.9	65.9
7/4/2016	1:13:00 PM	55.0	59.2	53.2	57.1	65.3	51.3	67.7	78.7	-	57.7	62.3	-	47.2	51.9	44.2	68.2	73.1	64.9
7/4/2016	1:14:00 PM	54.0	55.6	53.0	54.5	58.1	51.2	68.7	81.3	-	59.0	65.5	-	49.0	52.4	45.1	67.8	75.6	65.3
7/4/2016	1:15:00 PM	55.8	63.2	52.5	54.5	58.5	51.7	65.5	72.7	-	61.3	77.1	-	46.8	50.9	44.4	67.9	73.7	65.3
7/4/2016	1:16:00 PM	56.2	62.6	53.4	54.6	59.6	51.8	66.4	76.0	-	57.6	67.4	-	47.5	52.0	44.1	68.8	72.1	66.2
7/4/2016	1:17:00 PM	54.4	64.2	52.7	58.0	64.8	54.4	65.9	72.8	-	57.1	65.4	-	46.8	52.0	44.2	69.2	73.9	66.3
7/4/2016	1:18:00 PM	55.7	67.8	53.6	57.7	62.2	54.7	67.2	75.3	-	58.4	67.0	-	46.4	53.3	43.8	68.7	73.3	65.3
7/4/2016	1:19:00 PM	54.4	58.0	53.3	60.7	69.1	54.6	67.4	77.2	-	57.2	65.2	-	46.4	50.1	43.5	68.5	75.7	65.3
7/4/2016	1:20:00 PM	56.8	71.9	54.0	65.7	76.1	54.4	66.6	74.7	-	56.0	58.0	-	46.9	50.4	44.1	69.1	72.6	66.7
7/4/2016	1:21:00 PM	55.7	66.5	53.0	59.7	64.3	55.5	64.3	76.8	-	56.9	63.4	-	47.2	51.1	43.0	67.4	71.4	64.2
7/4/2016	1:22:00 PM	55.2	57.5	53.6	64.1	72.8	56.5	66.0	75.5	-	58.0	65.0	-	47.1	50.4	43.7	68.4	79.4	64.9
7/4/2016	1:23:00 PM	55.5	63.9	53.4	59.0	67.1	53.2	66.1	77.2	-	58.5	66.2	-	46.6	53.5	44.2	68.4	75.3	65.8
7/4/2016	1:24:00 PM	55.1	61.5	53.5	59.6	64.2	54.3	66.7	77.2	-	56.4	60.3	-	46.4	49.8	44.1	68.0	73.2	64.4
7/4/2016	1:25:00 PM	55.0	66.7	52.3	68.9	80.9	54.7	67.6	73.9	-	56.7	60.1	-	46.4	50.1	43.6	68.3	74.9	65.6
7/4/2016	1:26:00 PM	53.6	56.1	52.4	59.6	68.2	53.7	67.9	76.8	-	56.8	59.7	-	48.2	51.6	44.5	68.1	72.8	65.6
7/4/2016	1:27:00 PM	54.2	62.2	52.3	59.4	67.5	53.5	67.5	73.4	-	58.3	64.2	-	46.4	54.5	43.1	67.8	77.0	64.9
7/4/2016	1:28:00 PM	54.2	57.6	52.8	59.9	69.9	55.8	72.8	87.0	-	60.6	73.9	-	45.5	48.3	43.2	67.9	72.9	65.0
7/4/2016	1:29:00 PM	54.5	63.8	52.7	58.0	63.5	55.3	71.1	82.4	-	59.8	68.5	-	46.0	49.9	43.9	67.2	72.2	64.5
7/4/2016	1:30:00 PM	54.4	64.0	52.7	64.8	75.9	54.7	72.0	86.8	-	57.0	61.1	-	46.0	50.6	43.4	67.2	70.6	64.7
7/4/2016	1:31:00 PM	53.9	68.2	52.1	59.8	69.4	53.5	70.8	81.9	-	56.3	61.7	-	45.2	48.9	42.8	67.8	74.3	65.8
7/4/2016	1:32:00 PM	59.3	73.8	52.6	68.8	77.3	56.1	70.1	83.3	-	57.3	64.5	-	45.2	50.4	43.3	68.1	72.7	65.4
7/4/2016	1:33:00 PM	56.1	61.0	53.6	59.9	65.4	54.3	71.5	81.4	-	57.6	62.8	-	46.6	61.0	43.4	67.9	75.0	65.3
7/4/2016	1:34:00 PM	54.8	60.4	52.5	59.6	64.5	54.2	70.7	81.8	-	57.3	61.6	-	45.1	48.6	43.1	68.6	75.5	66.2
7/4/2016	1:35:00 PM	53.7	56.7	52.1	62.6	70.2	56.2	69.1	79.2	-	57.2	66.4	-	45.6	48.7	43.3	68.2	76.5	65.4
7/4/2016	1:36:00 PM	54.0	57.3	52.1	59.6	63.3	56.1	69.4	80.8	-	57.6	62.9	-	47.6	51.7	44.9	68.4	72.7	65.8
7/4/2016	1:37:00 PM	54.0	56.7	52.7	61.1	65.0	57.5	68.0	77.9	-	57.7	60.9	-	47.9	54.4	43.4	68.6	75.4	65.2
7/4/2016	1:38:00 PM	55.3	61.7	52.6	58.3	65.4	53.8	67.7	79.2	-	56.9	63.6	-	45.8	50.4	43.5	68.9	75.4	65.8
7/4/2016	1:39:00 PM	54.4	59.3	52.4	60.0	63.2	56.0	67.8	77.2	-	58.6	67.1	-	46.0	52.7	43.2	68.9	75.9	66.1
7/4/2016	1:40:00 PM	53.8	56.1	52.3	59.6	65.8	56.5	67.7	77.7	-	57.5	61.8	-	46.9	56.0	42.4	69.2	76.2	65.8
7/4/2016	1:41:00 PM	55.1	63.0	52.2	62.4	67.3	57.8	66.1	73.8	-	59.0	65.8	-	47.4	50.2	44.5	69.1	77.2	66.2
7/4/2016	1:42:00 PM	55.1	63.4	52.9	64.9	74.0	56.0	70.6	86.5	-	58.0	63.1	-	45.4	48.1	42.6	69.6	79.4	66.3
7/4/2016	1:43:00 PM	55.3	63.1	52.5	60.9	65.4	55.2	68.4	84.1	-	57.2	67.3	-	46.0	57.6	43.8	69.2	76.3	66.5
7/4/2016	1:44:00 PM	57.3	78.9	52.2	58.9	64.0	54.5	73.1	84.6	-	57.9	61.9	-	45.3	50.2	42.9	69.0	75.0	65.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	1:45:00 PM	53.9	58.4	52.3	60.8	65.4	56.3	78.2	91.9	-	59.2	67.1	-	45.6	48.3	43.5	68.1	73.5	65.8
7/4/2016	1:46:00 PM	58.9	77.9	52.5	62.2	68.0	56.9	75.2	88.4	-	58.1	62.0	-	45.3	48.9	43.5	67.9	73.0	64.9
7/4/2016	1:47:00 PM	56.3	70.0	52.4	70.5	75.0	63.8	80.0	94.4	-	57.4	64.1	-	44.8	48.7	42.3	68.6	77.2	65.2
7/4/2016	1:48:00 PM	63.8	78.9	52.3	63.7	71.3	55.8	74.1	89.9	-	57.9	61.7	-	44.8	49.4	43.0	68.8	73.3	65.5
7/4/2016	1:49:00 PM	60.3	80.3	52.4	57.9	67.3	53.4	76.5	83.4	-	56.2	58.7	-	46.2	51.9	43.4	69.0	73.4	65.6
7/4/2016	1:50:00 PM	62.6	77.6	53.8	61.3	73.1	52.8	76.7	85.0	-	56.9	64.1	-	46.6	50.9	44.0	68.8	74.3	66.0
7/4/2016	1:51:00 PM	60.1	79.7	53.2	59.6	67.8	52.4	75.2	82.2	-	58.5	62.1	-	45.9	50.6	44.3	68.7	73.8	66.1
7/4/2016	1:52:00 PM	60.6	79.8	52.9	62.2	69.4	55.8	78.5	90.9	-	58.0	62.8	-	48.1	58.8	44.1	69.1	77.0	66.1
7/4/2016	1:53:00 PM	58.3	69.3	53.3	58.7	65.8	53.9	81.4	91.2	-	61.0	69.6	-	46.3	50.3	44.1	85.6	98.8	65.4
7/4/2016	1:54:00 PM	55.6	67.3	53.1	59.6	67.9	52.6	81.1	92.8	-	57.6	61.9	-	46.5	53.9	44.2	77.9	94.5	66.2
7/4/2016	1:55:00 PM	54.0	57.1	52.0	60.4	70.3	54.2	77.8	91.2	-	58.9	67.7	-	47.0	51.4	44.5	68.7	73.1	65.4
7/4/2016	1:56:00 PM	53.5	57.1	52.0	64.3	78.5	53.3	74.5	83.5	-	58.1	62.9	-	46.9	53.5	44.4	68.5	75.6	66.0
7/4/2016	1:57:00 PM	55.0	59.8	53.1	54.2	60.4	50.0	73.0	86.9	-	58.9	69.8	-	47.9	51.3	45.1	68.4	73.7	65.2
7/4/2016	1:58:00 PM	55.1	59.4	52.0	56.0	65.9	49.5	75.8	90.7	-	59.0	69.2	-	46.7	51.4	44.3	68.2	71.8	65.9
7/4/2016	1:59:00 PM	53.6	60.9	52.0	66.7	72.7	57.8	76.5	90.0	-	58.1	69.0	-	46.1	50.4	44.4	68.2	75.1	65.6
7/4/2016	2:00:00 PM	54.1	60.0	52.5	63.0	68.2	57.0	69.4	80.3	-	57.3	61.0	-	46.4	50.8	44.3	68.2	72.1	65.7
7/4/2016	2:01:00 PM	53.9	60.4	52.6	61.4	67.3	55.1	73.0	82.7	-	56.9	63.4	-	46.8	50.7	44.3	68.1	73.7	64.9
7/4/2016	2:02:00 PM	54.4	62.4	52.6	57.0	64.0	52.0	68.1	77.6	-	57.0	61.3	-	47.5	50.6	45.3	68.6	74.2	65.8
7/4/2016	2:03:00 PM	54.1	56.4	52.6	57.1	61.3	52.3	67.3	76.0	-	56.5	60.3	-	46.4	50.7	44.0	68.8	72.8	65.7
7/4/2016	2:04:00 PM	54.7	73.2	48.6	56.1	61.3	52.3	69.3	82.1	-	58.2	68.4	-	45.5	50.0	43.2	68.3	74.9	65.5
7/4/2016	2:05:00 PM	56.5	71.4	50.9	55.7	59.1	53.3	68.2	78.5	-	57.2	66.0	-	47.1	51.7	44.0	69.3	76.3	66.3
7/4/2016	2:06:00 PM	56.6	65.7	52.1	63.8	77.0	53.1	68.4	77.5	-	58.8	67.0	-	47.1	59.3	44.8	68.3	75.3	64.3
7/4/2016	2:07:00 PM	54.6	70.5	50.8	58.4	67.5	53.8	68.2	78.5	-	58.1	62.9	-	46.8	48.9	44.3	68.6	72.3	65.5
7/4/2016	2:08:00 PM	57.1	77.4	49.0	58.5	66.0	54.3	68.2	79.9	-	57.6	63.6	-	46.6	52.6	44.1	68.8	74.6	66.1
7/4/2016	2:09:00 PM	51.4	57.5	48.1	60.6	67.8	55.3	69.6	82.0	-	56.9	64.7	-	46.4	54.2	44.1	68.9	74.7	65.4
7/4/2016	2:10:00 PM	53.9	58.1	49.0	56.9	60.7	53.7	71.1	84.1	-	58.0	66.0	-	45.8	52.2	43.3	69.0	75.0	66.7
7/4/2016	2:11:00 PM	50.3	56.5	47.1	56.9	62.5	51.8	70.4	80.1	-	56.7	63.6	-	45.5	51.6	43.4	68.7	75.9	65.4
7/4/2016	2:12:00 PM	50.5	57.7	47.5	56.4	68.8	51.5	71.3	76.7	-	58.7	70.6	-	47.2	53.9	44.0	68.4	74.0	65.2
7/4/2016	2:13:00 PM	52.3	55.9	49.2	72.7	82.8	59.0	71.5	76.1	-	56.3	62.4	-	46.8	51.2	43.9	68.6	72.5	66.1
7/4/2016	2:14:00 PM	58.3	68.6	51.6	56.4	64.0	51.8	69.0	77.7	-	57.7	67.2	-	46.8	52.6	44.5	68.6	72.1	65.9
7/4/2016	2:15:00 PM	59.0	71.2	51.0	57.4	62.0	51.9	69.3	77.1	-	57.5	63.5	-	46.9	58.3	44.6	68.6	73.9	66.1
7/4/2016	2:16:00 PM	57.1	70.7	49.8	56.8	62.4	52.9	71.2	80.4	-	56.7	63.3	-	47.0	55.7	44.8	69.1	74.9	65.8
7/4/2016	2:17:00 PM	58.3	71.3	51.8	63.2	70.0	53.8	68.3	73.8	-	57.3	64.6	-	47.5	55.9	45.0	68.7	73.4	65.4
7/4/2016	2:18:00 PM	56.7	70.8	53.9	63.2	68.0	57.6	70.0	77.2	-	57.8	64.0	-	45.4	48.9	43.3	69.0	74.4	66.4
7/4/2016	2:19:00 PM	54.7	61.7	52.6	56.7	61.6	51.0	71.3	79.7	-	57.1	63.5	-	45.7	50.8	43.8	69.4	76.5	66.2
7/4/2016	2:20:00 PM	56.0	69.1	53.4	54.7	60.0	51.0	71.3	79.2	-	57.5	62.8	-	45.7	49.7	43.9	68.8	72.8	66.0
7/4/2016	2:21:00 PM	57.0	69.2	52.6	59.3	65.7	52.8	72.3	78.2	-	60.5	69.9	-	45.7	48.8	43.9	69.3	73.1	66.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	2:22:00 PM	67.1	78.8	53.1	55.2	60.3	51.9	71.8	79.0	-	56.6	60.1	-	46.1	49.6	43.8	68.9	72.5	66.4
7/4/2016	2:23:00 PM	53.8	61.1	52.4	54.0	58.4	51.4	73.3	80.4	-	57.0	61.2	-	51.4	59.0	44.6	69.5	73.7	67.1
7/4/2016	2:24:00 PM	53.7	58.5	50.3	63.4	72.6	51.8	72.1	80.0	-	57.2	62.2	-	47.8	51.9	44.1	69.1	74.9	65.5
7/4/2016	2:25:00 PM	54.1	66.4	49.2	57.6	64.7	52.4	74.0	82.4	-	57.3	61.9	-	46.4	49.8	43.8	68.8	75.7	66.5
7/4/2016	2:26:00 PM	53.6	57.9	48.4	62.1	72.2	53.8	73.3	82.5	-	57.8	65.3	-	45.9	52.4	43.3	69.2	77.2	66.7
7/4/2016	2:27:00 PM	61.2	82.3	49.8	58.7	63.7	52.6	70.8	79.6	-	57.8	63.1	-	46.6	52.0	43.5	69.0	75.0	66.8
7/4/2016	2:28:00 PM	51.2	54.2	48.4	58.8	65.5	51.1	73.6	82.2	-	57.1	62.8	-	46.9	53.0	43.9	69.7	78.4	66.3
7/4/2016	2:29:00 PM	52.7	62.1	48.0	61.6	66.5	56.1	74.9	80.3	-	57.0	63.4	-	47.6	56.5	44.3	69.5	77.7	66.7
7/4/2016	2:30:00 PM	53.6	56.4	52.1	56.8	63.5	51.9	71.7	79.8	-	58.4	63.9	-	48.5	54.0	44.8	69.8	77.6	65.5
7/4/2016	2:31:00 PM	54.2	59.6	52.6	60.2	67.1	53.0	72.3	79.0	-	58.0	64.7	-	48.8	53.7	44.9	70.3	76.5	66.9
7/4/2016	2:32:00 PM	54.5	58.9	52.7	61.3	70.2	52.6	71.7	78.4	-	57.5	61.3	-	49.2	54.4	44.3	69.9	76.6	67.2
7/4/2016	2:33:00 PM	58.8	70.7	54.2	59.5	66.0	53.8	71.2	75.8	-	57.9	64.1	-	46.4	50.8	43.9	69.9	77.6	67.1
7/4/2016	2:34:00 PM	54.4	57.4	52.8	58.2	66.3	52.0	71.9	78.3	-	57.2	60.6	-	46.7	55.0	43.6	69.0	75.1	66.2
7/4/2016	2:35:00 PM	54.8	59.7	53.0	54.4	65.5	51.3	69.3	75.6	-	57.4	70.8	-	47.0	52.8	43.8	69.7	77.2	66.3
7/4/2016	2:36:00 PM	53.9	56.9	52.4	55.8	59.3	52.4	71.2	77.4	-	58.1	66.3	-	47.0	53.3	44.3	69.1	75.8	66.0
7/4/2016	2:37:00 PM	52.7	56.4	47.9	60.0	64.8	56.1	71.5	84.6	-	57.7	65.9	-	46.2	51.9	44.1	69.2	77.4	66.8
7/4/2016	2:38:00 PM	51.7	57.2	48.3	61.1	65.8	57.3	70.9	77.4	-	60.1	71.5	-	47.7	51.8	44.3	68.6	71.8	66.4
7/4/2016	2:39:00 PM	50.6	59.1	46.5	62.2	71.1	56.5	72.1	79.5	-	57.5	66.6	-	45.6	49.3	43.2	68.3	74.9	65.2
7/4/2016	2:40:00 PM	51.4	59.4	48.6	61.3	67.1	55.5	70.4	78.8	-	57.6	66.2	-	46.3	52.9	43.8	68.5	73.6	65.8
7/4/2016	2:41:00 PM	63.3	78.8	46.9	58.6	65.3	53.8	71.7	81.9	-	59.0	69.7	-	46.4	52.1	43.8	69.2	73.6	66.7
7/4/2016	2:42:00 PM	54.3	63.3	51.0	57.8	64.3	53.3	72.8	81.9	-	58.3	68.7	-	45.6	52.4	43.6	69.2	74.0	66.7
7/4/2016	2:43:00 PM	53.8	54.9	52.7	58.3	63.3	53.9	71.2	78.8	-	57.3	64.8	-	46.2	53.3	43.7	69.0	74.2	66.1
7/4/2016	2:44:00 PM	54.7	58.2	53.2	57.6	64.7	53.5	72.3	78.9	-	56.8	62.2	-	45.7	54.0	43.2	70.0	75.4	66.7
7/4/2016	2:45:00 PM	54.3	56.8	53.0	55.2	62.6	52.2	71.5	80.1	-	57.0	62.0	-	45.5	48.8	43.3	68.2	74.0	65.6
7/4/2016	2:46:00 PM	54.5	58.0	53.0	60.6	69.9	53.0	73.1	80.1	-	58.2	63.3	-	45.4	49.1	43.3	69.0	75.5	66.0
7/4/2016	2:47:00 PM	54.6	57.5	53.4	56.5	64.9	52.6	71.6	81.2	-	57.1	61.5	-	45.3	47.3	43.1	69.3	75.4	65.8
7/4/2016	2:48:00 PM	54.8	57.9	53.3	61.7	71.1	53.2	72.5	84.5	-	57.2	63.4	-	45.1	50.7	42.9	69.8	77.1	66.5
7/4/2016	2:49:00 PM	54.8	57.5	53.1	57.9	60.9	54.7	71.5	80.8	-	56.3	60.6	-	46.3	52.0	43.6	68.4	72.8	66.3
7/4/2016	2:50:00 PM	55.2	60.5	50.3	58.8	62.1	56.4	71.2	81.5	-	57.4	63.2	-	46.3	56.4	43.6	68.9	76.2	66.4
7/4/2016	2:51:00 PM	52.5	59.9	47.7	63.8	71.2	56.9	72.7	82.3	-	56.8	67.0	-	47.4	60.5	44.1	69.1	76.7	66.0
7/4/2016	2:52:00 PM	49.2	52.9	46.5	63.9	75.9	56.5	72.6	86.8	-	56.7	60.5	-	47.8	50.9	45.0	69.2	74.7	65.6
7/4/2016	2:53:00 PM	52.3	63.1	47.5	60.7	68.1	56.8	71.8	77.4	-	57.5	65.2	-	46.6	51.4	44.2	68.9	74.5	66.7
7/4/2016	2:54:00 PM	52.6	60.0	47.2	61.5	66.6	56.5	72.8	81.7	-	60.1	70.7	-	45.0	48.4	42.8	68.8	72.2	66.6
7/4/2016	2:55:00 PM	53.5	58.9	48.5	65.9	70.5	61.6	72.3	82.1	-	56.9	61.8	-	44.9	52.4	43.0	68.2	71.5	66.1
7/4/2016	2:56:00 PM	54.3	58.2	52.9	66.1	70.8	57.9	71.0	84.1	-	57.4	63.0	-	45.4	50.9	43.1	68.5	73.2	65.9
7/4/2016	2:57:00 PM	54.4	59.2	52.7	61.9	73.8	54.4	71.5	83.3	-	57.6	69.2	-	45.2	48.6	43.3	68.8	73.0	66.4
7/4/2016	2:58:00 PM	59.6	69.5	53.9	59.9	65.3	55.9	68.9	80.1	-	56.4	62.0	-	45.5	51.5	43.5	69.1	73.5	66.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	2:59:00 PM	57.8	68.2	53.9	60.3	65.4	56.1	71.9	89.5	-	55.7	66.3	-	45.0	49.1	42.9	68.7	72.3	65.5
7/4/2016	3:00:00 PM	57.0	67.0	53.3	56.9	61.5	53.9	71.7	82.3	-	55.6	59.7	-	45.7	49.9	43.3	68.7	72.1	66.3
7/4/2016	3:01:00 PM	54.9	57.3	53.3	57.7	60.8	55.3	71.4	82.1	-	57.4	62.8	-	46.6	50.4	43.4	69.2	76.6	66.3
7/4/2016	3:02:00 PM	55.2	57.2	53.3	56.8	61.5	53.1	72.0	80.4	-	57.0	60.3	-	46.9	51.4	43.8	70.5	75.4	66.8
7/4/2016	3:03:00 PM	55.3	57.7	53.7	53.6	56.0	51.2	71.6	80.5	-	57.6	62.8	-	45.7	51.2	43.1	68.6	75.7	65.4
7/4/2016	3:04:00 PM	52.4	57.3	48.8	54.0	58.5	51.5	72.9	82.4	-	57.7	67.1	-	46.2	54.7	44.0	68.7	73.8	66.2
7/4/2016	3:05:00 PM	50.6	61.0	47.7	54.4	56.7	52.7	73.9	86.8	-	57.5	63.6	-	45.0	47.2	43.1	68.8	74.3	66.1
7/4/2016	3:06:00 PM	50.6	57.4	47.5	59.5	68.5	54.1	73.3	80.6	-	56.3	62.5	-	44.9	48.9	42.8	68.5	73.2	66.5
7/4/2016	3:07:00 PM	50.1	54.0	47.9	61.8	70.1	54.8	76.0	87.1	-	57.0	65.4	-	45.6	51.8	43.3	70.1	75.8	67.0
7/4/2016	3:08:00 PM	53.0	57.6	48.1	66.1	73.1	57.8	73.5	81.6	-	58.3	64.8	-	45.5	48.5	42.4	69.5	73.6	67.1
7/4/2016	3:09:00 PM	56.5	59.1	54.7	58.9	65.5	54.5	73.5	89.4	-	57.1	66.4	-	45.4	50.7	43.0	69.1	74.3	66.6
7/4/2016	3:10:00 PM	59.1	64.0	55.3	59.6	62.9	56.9	75.1	86.0	-	56.3	65.6	-	45.7	53.0	42.9	68.8	75.1	66.1
7/4/2016	3:11:00 PM	56.0	60.8	53.9	59.4	63.8	56.2	72.4	80.4	-	57.4	62.2	-	45.6	53.9	42.4	68.8	74.6	66.5
7/4/2016	3:12:00 PM	54.8	56.8	53.3	65.3	76.5	56.7	75.1	84.1	-	58.0	63.3	-	45.7	53.3	42.9	68.8	76.7	66.3
7/4/2016	3:13:00 PM	55.4	59.0	52.9	61.6	74.9	53.2	76.5	83.6	-	56.5	61.8	-	48.0	55.4	43.6	69.0	73.3	67.1
7/4/2016	3:14:00 PM	54.2	66.9	52.5	56.9	64.7	51.9	75.0	80.1	-	57.0	67.0	-	44.7	52.2	42.6	68.7	73.3	66.2
7/4/2016	3:15:00 PM	57.5	67.0	53.1	59.7	66.6	54.3	74.4	83.0	-	57.3	64.8	-	45.8	55.1	43.4	68.7	73.4	66.5
7/4/2016	3:16:00 PM	54.6	60.9	48.4	58.8	63.3	55.7	71.0	80.5	-	56.6	63.9	-	46.4	54.4	43.4	69.3	72.7	66.5
7/4/2016	3:17:00 PM	51.0	62.3	47.3	58.2	66.2	53.6	73.4	81.4	-	56.3	62.0	-	44.8	49.5	43.0	68.6	72.4	66.7
7/4/2016	3:18:00 PM	50.1	64.2	46.7	61.5	70.9	51.7	70.1	78.9	-	58.2	66.7	-	44.8	47.8	42.9	69.3	76.3	66.4
7/4/2016	3:19:00 PM	51.7	55.2	48.3	60.8	71.3	55.1	74.4	81.3	-	58.7	71.1	-	45.8	56.3	43.5	69.1	78.4	65.9
7/4/2016	3:20:00 PM	53.8	64.8	49.6	55.2	60.4	52.1	73.7	85.0	-	60.9	69.9	-	46.2	61.0	42.6	69.0	72.8	66.3
7/4/2016	3:21:00 PM	55.8	62.3	50.7	59.3	66.7	52.0	74.2	83.4	-	63.0	76.4	-	45.6	51.9	43.0	68.7	73.1	66.1
7/4/2016	3:22:00 PM	58.6	64.0	54.4	58.6	66.7	53.4	73.7	83.3	-	55.1	59.1	-	46.0	59.8	43.5	68.4	72.8	65.1
7/4/2016	3:23:00 PM	55.7	59.1	53.9	60.5	68.2	54.4	70.1	82.3	-	55.6	64.0	-	45.1	50.6	43.0	68.4	73.1	65.5
7/4/2016	3:24:00 PM	55.8	57.7	53.9	60.8	65.9	56.2	69.0	80.7	-	57.8	64.2	-	46.7	52.0	43.6	69.1	79.3	66.5
7/4/2016	3:25:00 PM	55.7	62.8	53.3	55.2	60.4	51.8	70.5	82.1	-	57.8	68.7	-	47.5	50.7	44.3	68.4	71.8	66.3
7/4/2016	3:26:00 PM	55.3	60.5	53.3	52.2	56.2	50.3	66.3	76.6	-	57.7	63.7	-	48.5	56.4	44.1	68.5	73.4	66.0
7/4/2016	3:27:00 PM	56.9	66.4	53.2	55.8	62.1	51.3	71.8	85.5	-	58.1	64.6	-	47.2	54.0	43.7	68.5	75.9	66.3
7/4/2016	3:28:00 PM	57.8	65.2	53.5	56.4	65.0	50.9	70.5	85.7	-	57.3	66.6	-	46.7	51.8	44.0	69.1	81.2	66.8
7/4/2016	3:29:00 PM	65.6	79.1	50.6	52.4	54.9	50.1	75.6	86.1	-	58.6	67.3	-	46.4	51.4	44.5	69.1	78.3	66.6
7/4/2016	3:30:00 PM	50.9	54.1	47.8	53.0	58.0	50.3	71.0	84.7	-	66.5	77.0	-	47.3	53.4	44.5	69.3	76.0	66.4
7/4/2016	3:31:00 PM	50.5	53.7	48.0	56.4	60.8	53.1	69.3	79.4	-	58.2	63.6	-	47.4	58.9	44.7	69.7	77.2	66.7
7/4/2016	3:32:00 PM	49.6	53.5	47.1	69.1	84.0	55.2	67.4	78.2	-	57.3	67.2	-	49.8	57.7	44.0	68.7	74.3	66.1
7/4/2016	3:33:00 PM	56.4	72.8	51.8	58.0	65.4	53.3	69.1	79.3	-	57.3	60.7	-	47.4	54.8	43.2	68.5	71.5	66.9
7/4/2016	3:34:00 PM	57.8	69.1	54.7	59.8	69.6	52.9	69.1	79.6	-	58.6	69.7	-	46.2	49.1	43.8	68.7	74.0	66.4
7/4/2016	3:35:00 PM	60.2	80.1	54.1	57.8	66.3	53.5	69.4	81.5	-	56.1	62.5	-	45.7	49.6	43.0	68.7	73.3	66.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	3:36:00 PM	55.7	58.8	54.1	54.8	60.2	52.0	67.8	77.4	-	55.8	58.4	-	45.4	53.9	42.7	68.3	72.7	65.7
7/4/2016	3:37:00 PM	55.1	59.1	53.4	59.3	66.4	52.1	69.4	80.8	-	56.4	61.3	-	44.9	48.9	42.8	68.9	72.4	67.1
7/4/2016	3:38:00 PM	54.3	57.6	53.3	72.4	82.5	53.4	75.1	87.9	-	55.6	61.5	-	45.4	52.5	43.5	68.3	72.9	65.6
7/4/2016	3:39:00 PM	54.4	58.0	52.9	58.9	68.6	53.6	70.1	79.4	-	56.3	58.8	-	44.5	46.9	42.6	69.3	74.3	66.9
7/4/2016	3:40:00 PM	54.4	61.3	52.5	62.4	66.7	58.5	68.1	73.8	-	57.9	67.9	-	44.8	52.2	42.8	69.2	76.7	66.8
7/4/2016	3:41:00 PM	54.0	57.8	51.7	62.8	69.1	57.3	73.6	91.0	-	56.2	62.6	-	44.7	53.8	42.6	68.9	74.7	66.3
7/4/2016	3:42:00 PM	51.2	58.1	47.5	63.8	69.9	56.5	72.8	85.1	-	58.1	64.1	-	44.2	46.3	42.1	69.0	74.2	66.9
7/4/2016	3:43:00 PM	51.2	56.2	47.7	58.4	65.1	53.9	74.6	89.4	-	58.7	68.8	-	45.4	52.7	43.5	69.3	74.8	66.7
7/4/2016	3:44:00 PM	53.0	57.9	48.0	55.5	59.5	52.5	74.3	86.8	-	56.3	63.6	-	45.0	47.3	43.2	69.5	78.4	67.1
7/4/2016	3:45:00 PM	51.9	59.5	48.5	57.3	61.6	53.8	76.3	87.2	-	56.0	58.0	-	45.2	50.4	42.7	69.3	72.6	66.9
7/4/2016	3:46:00 PM	51.4	58.0	47.9	55.8	61.9	52.3	69.9	83.8	-	57.3	63.5	-	45.9	56.6	43.3	69.3	75.9	66.9
7/4/2016	3:47:00 PM	55.2	58.2	54.1	55.7	59.7	52.8	68.5	81.0	-	56.5	62.1	-	44.1	46.0	42.2	70.4	74.0	67.2
7/4/2016	3:48:00 PM	55.6	58.7	54.0	55.8	58.4	53.4	68.4	80.0	-	56.6	61.8	-	43.9	46.8	41.9	70.0	75.1	67.5
7/4/2016	3:49:00 PM	56.6	63.2	54.2	54.9	57.7	52.6	67.9	82.4	-	57.5	61.0	-	44.7	48.7	42.7	69.6	74.3	67.0
7/4/2016	3:50:00 PM	55.1	59.6	53.6	60.8	67.6	55.1	67.6	77.2	-	55.9	65.2	-	44.6	49.6	42.9	69.4	76.0	65.9
7/4/2016	3:51:00 PM	54.2	56.8	53.1	55.0	59.0	52.7	68.8	82.7	-	56.6	63.1	-	44.8	48.1	42.7	69.8	76.1	67.5
7/4/2016	3:52:00 PM	54.2	58.2	52.8	55.9	62.9	52.5	69.1	82.9	-	56.4	62.7	-	45.1	53.5	43.3	70.2	81.4	66.9
7/4/2016	3:53:00 PM	55.3	62.9	53.0	58.0	65.9	54.6	70.0	81.6	-	56.7	66.3	-	45.2	49.1	42.6	70.6	83.2	67.2
7/4/2016	3:54:00 PM	53.9	57.7	50.7	61.4	67.8	55.9	71.6	90.2	-	56.5	65.0	-	45.1	54.6	42.4	70.5	82.4	67.7
7/4/2016	3:55:00 PM	51.9	56.8	47.8	60.8	66.2	54.7	73.5	86.9	-	58.3	65.6	-	43.8	46.1	41.9	69.7	76.5	66.9
7/4/2016	3:56:00 PM	49.2	54.9	46.3	66.8	75.3	55.0	75.1	88.0	-	57.2	64.1	-	44.2	54.7	42.0	69.8	76.3	66.8
7/4/2016	3:57:00 PM	54.8	64.3	46.2	65.1	75.0	57.0	68.1	83.1	-	56.2	61.7	-	45.5	54.0	43.0	71.6	81.0	66.8
7/4/2016	3:58:00 PM	49.2	57.3	45.5	60.6	67.2	55.6	79.1	95.1	-	56.3	61.3	-	45.4	58.1	42.1	70.0	75.0	66.9
7/4/2016	3:59:00 PM	52.3	60.1	48.0	58.6	65.1	54.7	67.3	80.2	-	56.9	63.1	-	45.9	54.8	42.8	69.6	73.9	66.7
7/4/2016	4:00:00 PM	54.1	58.3	52.5	57.1	61.4	53.8	66.8	80.1	-	56.7	60.7	-	45.3	53.4	42.7	70.2	76.3	67.3
7/4/2016	4:01:00 PM	55.1	57.6	53.3	59.0	63.2	54.7	75.2	93.3	-	57.3	65.2	-	44.6	46.7	42.7	69.6	74.1	66.6
7/4/2016	4:02:00 PM	55.7	67.2	52.8	56.1	61.4	53.7	72.0	83.8	-	58.2	65.7	-	44.3	46.6	42.1	70.1	77.5	67.1
7/4/2016	4:03:00 PM	56.5	64.9	52.8	61.0	66.3	54.9	72.9	87.6	-	58.1	64.0	-	46.0	52.8	43.4	70.4	78.1	67.2
7/4/2016	4:04:00 PM	53.9	58.6	52.8	62.2	66.6	58.2	74.2	87.1	-	57.8	63.3	-	45.1	47.7	42.9	70.0	74.0	67.7
7/4/2016	4:05:00 PM	56.4	66.6	53.9	59.4	65.5	53.8	70.9	85.1	-	58.3	69.4	-	45.5	51.9	42.8	70.6	81.7	67.5
7/4/2016	4:06:00 PM	57.4	66.8	53.5	53.8	56.7	51.5	72.5	88.1	-	58.0	61.6	-	44.9	50.7	42.4	68.7	76.9	66.1
7/4/2016	4:07:00 PM	68.0	81.1	54.2	56.4	65.4	51.4	73.9	85.5	-	57.4	62.5	-	45.2	51.8	42.3	69.7	79.0	66.6
7/4/2016	4:08:00 PM	51.8	58.2	48.9	56.2	60.0	53.2	69.7	79.0	-	61.4	71.2	-	45.8	52.6	42.7	69.1	78.9	66.1
7/4/2016	4:09:00 PM	53.2	59.0	49.9	57.8	63.9	52.3	69.8	87.0	-	59.0	65.7	-	45.5	48.7	42.9	69.3	77.1	67.1
7/4/2016	4:10:00 PM	54.1	59.5	48.1	65.4	72.1	53.1	68.5	79.5	-	57.4	67.2	-	45.1	53.1	42.0	70.1	79.5	67.3
7/4/2016	4:11:00 PM	51.0	55.7	48.6	61.5	68.7	57.5	72.1	82.2	-	58.8	70.2	-	45.8	55.8	43.0	70.7	82.0	67.1
7/4/2016	4:12:00 PM	52.5	58.9	47.8	56.3	61.8	51.6	76.4	87.1	-	56.7	59.9	-	45.7	53.7	43.0	70.1	76.4	66.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	4:13:00 PM	54.5	58.3	52.6	54.7	58.6	52.0	75.8	90.2	-	57.2	61.5	-	48.7	58.0	43.4	68.8	72.8	65.9
7/4/2016	4:14:00 PM	55.6	59.1	53.3	60.1	67.6	52.4	78.3	92.4	-	56.7	62.5	-	48.0	55.9	43.4	69.7	77.3	66.8
7/4/2016	4:15:00 PM	54.4	56.8	52.9	57.4	64.3	53.5	70.8	85.5	-	56.7	59.5	-	45.2	47.6	43.4	69.9	79.3	67.1
7/4/2016	4:16:00 PM	54.3	56.5	52.7	61.3	73.6	53.4	71.6	86.2	-	56.7	61.3	-	46.3	49.8	43.2	70.1	76.9	67.2
7/4/2016	4:17:00 PM	53.3	57.3	52.1	57.0	62.5	52.1	72.2	84.3	-	57.6	63.7	-	44.3	47.0	42.0	70.3	78.4	67.0
7/4/2016	4:18:00 PM	54.4	57.0	52.3	57.3	62.8	53.8	74.6	87.9	-	56.9	61.4	-	45.4	51.6	43.0	70.0	75.2	67.7
7/4/2016	4:19:00 PM	54.3	58.2	52.8	55.2	59.1	53.2	73.5	88.9	-	59.0	69.9	-	44.7	48.6	42.6	70.2	75.6	67.0
7/4/2016	4:20:00 PM	54.1	60.0	52.4	56.6	66.5	52.4	72.2	86.7	-	56.8	60.6	-	45.1	55.1	42.7	70.0	77.7	67.1
7/4/2016	4:21:00 PM	53.1	59.7	50.1	59.6	64.8	56.3	71.0	80.0	-	57.9	66.2	-	44.7	47.2	42.9	69.6	74.5	67.0
7/4/2016	4:22:00 PM	50.2	53.3	47.9	63.0	66.5	59.6	70.6	83.5	-	56.1	60.3	-	46.3	51.1	43.2	69.3	74.9	67.0
7/4/2016	4:23:00 PM	49.3	55.1	46.8	59.3	63.5	55.5	70.2	80.3	-	57.4	61.2	-	49.0	65.1	42.8	70.1	74.2	67.8
7/4/2016	4:24:00 PM	49.3	54.1	47.0	62.1	68.0	54.7	69.6	85.0	-	57.2	62.8	-	44.6	49.3	42.6	70.1	74.3	67.5
7/4/2016	4:25:00 PM	50.0	54.1	47.2	55.8	58.6	53.1	66.8	81.0	-	56.2	58.5	-	44.1	50.8	41.9	69.3	73.8	66.8
7/4/2016	4:26:00 PM	53.4	57.7	46.4	60.9	71.7	53.6	68.7	85.2	-	56.1	59.5	-	44.6	48.2	42.3	69.8	78.3	66.8
7/4/2016	4:27:00 PM	58.9	74.2	54.1	62.3	68.7	55.1	67.2	81.8	-	57.0	64.2	-	43.9	47.3	42.0	69.7	72.7	67.4
7/4/2016	4:28:00 PM	56.9	70.4	53.0	68.4	77.6	61.3	70.7	82.6	-	58.3	67.1	-	44.3	49.3	42.3	69.6	73.0	67.4
7/4/2016	4:29:00 PM	55.9	60.3	53.3	66.3	72.2	58.0	67.2	81.1	-	55.8	62.8	-	45.2	53.0	42.6	69.4	75.8	66.3
7/4/2016	4:30:00 PM	55.6	63.9	53.1	60.1	69.8	55.1	71.0	86.0	-	56.9	62.8	-	45.9	51.1	42.4	69.2	72.8	67.1
7/4/2016	4:31:00 PM	54.5	61.9	52.5	61.2	71.5	53.4	71.5	81.8	-	56.8	61.4	-	58.0	67.5	44.7	69.4	72.7	67.5
7/4/2016	4:32:00 PM	53.3	57.5	52.2	53.3	58.2	50.6	70.9	78.6	-	58.6	63.4	-	58.8	64.4	47.8	69.6	74.7	67.2
7/4/2016	4:33:00 PM	53.5	55.6	52.4	60.9	68.9	55.3	73.5	88.0	-	57.7	62.9	-	47.7	54.6	43.5	69.6	75.1	67.2
7/4/2016	4:34:00 PM	53.3	55.2	52.0	61.2	66.6	54.6	70.7	83.0	-	59.0	67.0	-	45.3	52.5	42.6	73.6	93.6	67.1
7/4/2016	4:35:00 PM	53.5	59.3	48.3	55.1	59.5	52.5	73.8	84.4	-	59.0	67.4	-	44.9	53.9	42.4	69.2	75.0	66.6
7/4/2016	4:36:00 PM	49.7	55.0	47.2	57.1	63.2	53.6	73.1	86.7	-	58.9	69.1	-	46.4	52.5	43.5	69.4	72.8	66.8
7/4/2016	4:37:00 PM	48.9	56.2	46.2	55.2	59.7	52.0	68.7	80.0	-	64.2	77.7	-	46.1	50.3	43.1	69.9	75.8	67.1
7/4/2016	4:38:00 PM	49.4	57.1	47.3	59.0	65.9	54.3	71.8	85.2	-	79.5	95.0	-	46.1	49.4	43.9	69.7	75.3	66.8
7/4/2016	4:39:00 PM	50.4	56.9	46.9	54.7	57.6	51.9	68.9	77.8	-	73.7	90.7	-	46.5	56.8	43.7	70.3	75.8	67.2
7/4/2016	4:40:00 PM	55.2	67.9	47.2	59.6	72.4	52.7	67.0	83.9	-	62.3	75.1	-	45.8	50.3	43.1	70.8	77.6	68.4
7/4/2016	4:41:00 PM	54.9	60.9	53.5	67.8	77.5	55.6	68.3	84.1	-	56.1	61.0	-	45.2	49.7	43.3	70.5	79.2	67.4
7/4/2016	4:42:00 PM	54.3	60.2	52.4	62.5	71.2	56.7	68.1	79.5	-	57.0	60.5	-	45.1	52.2	43.0	69.9	74.2	66.7
7/4/2016	4:43:00 PM	54.8	56.5	52.9	63.7	68.4	58.2	71.3	78.6	-	56.9	60.8	-	45.1	47.1	42.8	71.6	79.3	68.1
7/4/2016	4:44:00 PM	53.8	62.3	52.4	61.2	67.6	55.9	69.4	84.6	-	57.1	60.8	-	45.4	49.0	42.3	72.8	77.7	68.5
7/4/2016	4:45:00 PM	53.8	55.9	52.7	60.7	68.7	54.3	70.4	82.1	-	56.8	59.7	-	45.4	51.2	42.9	72.3	81.8	67.6
7/4/2016	4:46:00 PM	54.0	56.1	53.1	56.5	59.9	53.2	69.7	78.5	-	57.5	64.0	-	48.4	61.5	43.2	70.2	75.6	66.9
7/4/2016	4:47:00 PM	54.2	59.2	52.6	59.8	69.0	54.1	69.3	78.3	-	59.2	69.1	-	45.3	53.9	42.9	69.2	75.3	66.8
7/4/2016	4:48:00 PM	55.1	57.7	51.2	61.6	70.3	55.1	70.9	80.8	-	56.7	61.4	-	45.5	49.7	42.2	69.7	73.5	67.4
7/4/2016	4:49:00 PM	53.3	57.4	50.4	61.4	67.2	55.9	72.0	88.5	-	59.0	69.8	-	45.9	53.5	43.2	69.6	73.9	67.1

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	4:50:00 PM	54.3	68.9	49.6	56.4	62.6	51.4	68.8	75.6	-	55.8	58.6	-	46.3	55.3	42.9	70.6	76.7	67.3
7/4/2016	4:51:00 PM	51.7	61.2	48.4	54.2	60.0	50.6	74.2	87.5	-	56.1	65.3	-	46.3	50.2	43.5	70.8	77.9	67.6
7/4/2016	4:52:00 PM	51.5	56.4	48.9	62.7	68.9	54.7	72.5	85.3	-	56.6	59.0	-	45.1	53.4	42.7	70.3	75.3	67.0
7/4/2016	4:53:00 PM	54.3	59.5	48.7	54.8	58.3	52.5	71.1	79.9	-	56.8	62.4	-	45.9	48.8	42.9	70.0	75.8	66.9
7/4/2016	4:54:00 PM	54.9	57.1	53.5	57.8	63.9	52.4	69.5	88.1	-	55.9	60.1	-	45.8	53.5	42.6	71.7	80.5	67.7
7/4/2016	4:55:00 PM	54.1	56.1	52.5	59.8	65.6	54.7	67.6	74.6	-	57.9	65.3	-	45.2	52.5	42.6	71.0	79.9	67.2
7/4/2016	4:56:00 PM	53.7	56.9	52.6	54.6	57.6	51.8	67.9	76.7	-	56.2	59.4	-	45.0	50.8	42.6	70.5	74.8	68.1
7/4/2016	4:57:00 PM	53.4	56.9	52.1	62.2	71.5	52.4	69.4	81.7	-	56.6	61.1	-	45.4	53.5	42.9	71.4	78.5	67.7
7/4/2016	4:58:00 PM	55.4	59.7	52.3	58.6	66.4	55.2	70.0	82.4	-	56.8	61.1	-	45.3	49.4	42.6	70.5	76.2	67.5
7/4/2016	4:59:00 PM	55.9	65.9	52.5	55.8	60.8	52.1	69.1	80.9	-	56.7	67.7	-	46.0	52.9	43.6	71.1	77.0	68.6
7/4/2016	5:00:00 PM	54.4	62.8	52.2	55.4	58.7	53.4	66.8	75.0	-	56.6	63.7	-	45.1	47.7	42.9	70.1	76.9	67.5
7/4/2016	5:01:00 PM	57.4	70.0	52.1	54.3	57.7	52.4	68.7	80.7	-	59.4	72.0	-	45.1	48.7	42.9	69.9	76.4	67.5
7/4/2016	5:02:00 PM	53.4	60.7	52.2	61.1	70.3	52.7	71.2	86.2	-	58.9	69.7	-	45.2	51.0	42.0	69.7	74.4	67.5
7/4/2016	5:03:00 PM	50.1	59.8	45.8	59.4	68.2	55.0	69.8	80.2	-	56.2	63.8	-	46.6	51.0	44.1	69.6	78.9	67.3
7/4/2016	5:04:00 PM	52.8	60.0	46.3	59.2	68.7	55.9	69.9	83.8	-	56.1	63.0	-	46.6	51.8	43.6	70.3	76.8	67.2
7/4/2016	5:05:00 PM	53.5	64.8	47.1	59.4	69.7	52.5	69.6	78.6	-	56.0	65.6	-	46.6	51.6	43.6	70.5	75.7	67.6
7/4/2016	5:06:00 PM	51.1	59.3	47.7	55.6	65.0	51.9	69.6	82.4	-	55.6	58.0	-	45.4	49.7	42.8	71.3	76.3	68.1
7/4/2016	5:07:00 PM	53.4	60.0	47.2	56.9	64.6	53.2	71.0	85.8	-	55.7	60.6	-	47.0	54.3	43.2	72.3	77.6	68.1
7/4/2016	5:08:00 PM	54.9	61.1	53.4	57.2	60.9	54.9	72.8	86.7	-	57.1	65.2	-	48.2	54.9	44.2	72.3	76.4	68.7
7/4/2016	5:09:00 PM	54.7	58.6	52.7	56.4	62.0	52.5	71.8	84.2	-	58.1	66.2	-	45.6	54.3	43.4	72.1	76.7	68.7
7/4/2016	5:10:00 PM	54.3	61.7	52.5	55.8	58.7	53.1	73.9	89.5	-	56.9	62.1	-	46.2	54.4	43.9	71.6	76.7	67.9
7/4/2016	5:11:00 PM	54.2	58.7	52.5	57.8	64.3	53.6	74.4	86.1	-	57.2	65.1	-	46.4	50.3	43.7	72.0	77.5	69.3
7/4/2016	5:12:00 PM	54.7	57.8	52.8	56.8	67.8	53.1	73.7	85.6	-	56.3	61.9	-	45.4	51.2	43.2	71.6	78.4	67.7
7/4/2016	5:13:00 PM	54.6	67.7	52.6	59.5	72.5	52.3	73.1	85.8	-	57.4	66.4	-	45.8	57.2	43.6	70.0	74.7	67.7
7/4/2016	5:14:00 PM	54.6	62.9	52.4	54.7	57.3	52.6	76.2	87.8	-	56.0	61.9	-	45.1	49.1	42.8	69.5	75.1	66.8
7/4/2016	5:15:00 PM	53.6	59.6	51.9	55.6	65.5	51.6	76.7	90.8	-	55.4	57.9	-	44.7	48.1	42.7	69.9	74.5	66.7
7/4/2016	5:16:00 PM	53.0	57.6	47.3	59.1	64.6	52.7	73.2	86.4	-	57.3	60.7	-	45.4	52.7	43.1	72.1	81.8	69.0
7/4/2016	5:17:00 PM	50.9	58.7	46.8	59.9	66.2	54.9	78.1	94.4	-	57.0	64.5	-	45.9	48.9	43.7	71.4	79.4	68.8
7/4/2016	5:18:00 PM	55.5	72.2	47.1	66.9	73.8	58.1	75.3	89.8	-	55.3	60.3	-	45.6	48.1	43.6	71.0	74.7	68.3
7/4/2016	5:19:00 PM	52.0	62.6	48.7	59.9	65.3	54.2	76.4	92.0	-	57.1	66.4	-	45.1	48.0	43.1	71.6	79.3	67.4
7/4/2016	5:20:00 PM	51.4	58.9	47.9	56.3	59.7	53.9	72.0	89.1	-	55.1	60.6	-	47.4	66.5	42.6	71.7	74.7	68.4
7/4/2016	5:21:00 PM	55.1	59.7	53.5	62.2	71.5	54.0	74.8	89.0	-	55.8	60.0	-	45.3	49.1	43.0	72.6	83.1	69.3
7/4/2016	5:22:00 PM	55.7	57.9	53.8	61.3	68.3	55.7	75.1	86.7	-	56.5	67.9	-	46.7	57.6	44.2	71.6	76.1	68.2
7/4/2016	5:23:00 PM	55.3	64.7	52.9	62.1	67.5	56.0	75.4	88.0	-	56.2	59.9	-	46.7	49.6	44.3	71.8	75.5	68.8
7/4/2016	5:24:00 PM	55.7	59.2	53.6	59.1	64.1	54.2	73.2	83.6	-	58.5	74.0	-	46.5	52.1	43.7	71.6	75.8	69.0
7/4/2016	5:25:00 PM	54.5	56.4	52.4	56.4	62.9	53.0	72.3	88.7	-	56.0	62.2	-	46.0	49.2	43.2	71.5	75.5	68.9
7/4/2016	5:26:00 PM	54.8	58.7	52.9	57.0	60.9	53.8	71.5	87.5	-	55.6	59.4	-	46.9	54.3	43.8	70.9	77.6	67.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	5:27:00 PM	54.5	56.7	52.6	61.9	72.4	54.2	85.8	95.7	-	56.0	57.9	-	45.8	49.6	43.7	71.0	74.5	68.5
7/4/2016	5:28:00 PM	54.4	57.8	52.8	62.2	68.9	54.4	81.8	94.5	-	56.5	59.6	-	45.5	48.4	43.3	70.2	77.7	67.2
7/4/2016	5:29:00 PM	54.3	57.9	52.2	59.1	64.7	53.9	73.6	86.6	-	57.4	62.6	-	47.2	51.4	44.3	72.0	76.8	68.8
7/4/2016	5:30:00 PM	54.0	59.4	52.4	56.1	60.1	53.0	79.9	94.7	-	56.5	60.8	-	46.1	49.7	43.4	71.4	77.3	69.3
7/4/2016	5:31:00 PM	58.2	73.6	52.7	58.5	61.1	55.2	75.8	86.6	-	56.6	61.8	-	47.2	60.5	43.8	72.4	81.0	68.0
7/4/2016	5:32:00 PM	56.9	69.9	52.5	64.2	72.3	56.8	75.5	88.7	-	57.3	68.4	-	46.9	55.9	43.7	71.2	75.4	68.4
7/4/2016	5:33:00 PM	54.4	58.7	52.6	59.2	69.6	55.3	72.2	87.4	-	58.9	67.6	-	47.3	56.8	44.0	71.9	75.8	68.7
7/4/2016	5:34:00 PM	51.5	61.1	47.3	58.9	66.2	55.0	73.7	96.2	-	56.5	62.7	-	45.7	50.9	44.0	71.6	75.1	69.1
7/4/2016	5:35:00 PM	51.3	55.3	47.6	61.9	67.2	56.8	74.0	86.9	-	56.7	65.0	-	45.9	52.3	43.4	71.4	75.3	68.7
7/4/2016	5:36:00 PM	50.0	53.2	47.9	64.5	72.4	55.1	72.0	84.2	-	56.5	63.5	-	45.5	50.8	43.1	72.1	77.2	69.8
7/4/2016	5:37:00 PM	49.7	60.0	45.9	59.4	67.7	53.6	75.6	91.9	-	56.9	64.1	-	45.7	51.5	43.0	71.5	75.8	68.9
7/4/2016	5:38:00 PM	54.6	59.2	52.3	61.5	68.1	53.7	74.9	93.3	-	55.7	63.6	-	45.9	49.6	43.5	72.4	78.4	69.7
7/4/2016	5:39:00 PM	57.3	64.5	53.7	62.4	72.4	56.3	72.6	85.6	-	56.0	62.8	-	45.0	47.8	43.0	70.8	77.1	68.0
7/4/2016	5:40:00 PM	54.7	59.8	52.7	59.9	63.2	57.1	69.6	79.9	-	56.1	63.0	-	45.8	48.4	43.5	72.0	75.5	69.0
7/4/2016	5:41:00 PM	53.5	62.0	52.2	67.0	75.6	57.5	79.6	95.6	-	57.4	68.7	-	46.0	48.7	44.0	73.3	78.7	68.1
7/4/2016	5:42:00 PM	53.4	59.8	52.0	62.7	69.5	54.0	72.4	88.4	-	56.6	66.5	-	48.1	52.2	45.1	74.5	78.4	69.3
7/4/2016	5:43:00 PM	53.1	56.3	51.9	53.9	56.2	52.1	78.9	95.7	-	55.8	63.7	-	46.6	49.6	44.3	73.8	77.9	69.3
7/4/2016	5:44:00 PM	54.0	60.5	52.4	53.5	57.2	50.7	73.1	85.9	-	58.3	68.8	-	47.5	50.7	44.6	74.8	79.0	69.0
7/4/2016	5:45:00 PM	54.0	60.8	52.1	57.0	59.6	55.0	80.5	95.1	-	56.5	61.7	-	45.7	52.7	43.7	74.6	78.4	69.6
7/4/2016	5:46:00 PM	53.4	55.6	52.0	63.4	72.1	55.1	73.7	89.2	-	56.5	66.3	-	45.6	48.5	43.3	74.7	77.7	68.6
7/4/2016	5:47:00 PM	54.1	68.1	52.0	58.6	62.5	55.5	72.5	85.6	-	56.4	60.5	-	45.9	51.9	44.1	75.8	80.7	69.2
7/4/2016	5:48:00 PM	54.2	65.9	52.3	57.1	64.4	53.2	75.8	90.4	-	56.8	61.8	-	45.9	49.3	44.1	74.9	80.2	69.5
7/4/2016	5:49:00 PM	55.7	68.6	48.1	65.0	77.3	53.7	70.1	79.7	-	56.0	59.6	-	45.6	51.7	43.4	75.1	78.7	70.5
7/4/2016	5:50:00 PM	48.7	57.3	45.2	56.6	60.3	53.3	73.0	90.5	-	55.9	58.9	-	47.5	55.3	44.0	74.8	78.1	66.9
7/4/2016	5:51:00 PM	48.8	59.8	45.5	57.5	62.6	53.0	70.9	86.4	-	55.7	61.0	-	48.7	64.1	43.1	74.1	79.3	70.2
7/4/2016	5:52:00 PM	50.4	58.9	47.7	53.5	56.3	51.3	72.2	86.5	-	55.8	58.1	-	45.7	50.5	43.4	73.6	77.2	69.9
7/4/2016	5:53:00 PM	52.0	64.3	46.3	56.1	64.4	51.4	70.8	84.1	-	55.9	61.7	-	46.0	49.5	43.9	73.4	76.9	69.3
7/4/2016	5:54:00 PM	57.5	65.9	53.0	57.2	60.7	53.6	69.8	80.5	-	57.4	63.8	-	46.1	49.5	43.6	73.2	76.8	68.9
7/4/2016	5:55:00 PM	54.8	62.3	52.2	59.2	63.0	56.1	71.3	83.7	-	59.2	74.6	-	45.6	48.4	42.9	74.0	82.6	70.2
7/4/2016	5:56:00 PM	53.9	56.9	52.1	59.1	63.3	56.4	70.6	82.8	-	56.2	59.6	-	45.1	50.2	43.0	73.6	80.4	68.5
7/4/2016	5:57:00 PM	53.4	61.5	51.7	63.7	67.4	56.2	72.4	86.4	-	56.3	59.8	-	45.2	53.6	43.3	73.2	76.3	68.2
7/4/2016	5:58:00 PM	54.7	65.5	52.6	57.7	63.7	53.7	74.3	88.4	-	57.2	65.5	-	45.7	49.9	42.9	75.0	84.9	69.3
7/4/2016	5:59:00 PM	55.9	70.5	52.9	58.5	65.5	53.6	70.0	83.7	-	56.1	65.4	-	45.9	49.2	44.1	74.5	80.5	71.3
7/4/2016	6:00:00 PM	55.4	60.7	53.1	54.5	57.8	52.3	69.4	79.8	-	56.0	64.0	-	45.6	48.3	43.2	74.6	79.6	71.3
7/4/2016	6:01:00 PM	54.8	58.6	53.2	54.9	59.5	51.7	72.3	92.9	-	55.3	61.2	-	45.7	52.4	43.6	75.3	79.0	69.9
7/4/2016	6:02:00 PM	54.0	56.3	52.7	56.5	60.5	52.3	70.4	81.9	-	55.4	60.3	-	45.1	48.7	42.9	74.6	79.8	71.5
7/4/2016	6:03:00 PM	53.4	56.5	52.3	57.2	73.9	52.2	73.7	85.8	-	55.7	59.5	-	45.2	48.8	43.1	75.4	80.3	71.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	6:04:00 PM	53.8	58.2	52.3	55.4	70.8	51.9	71.8	85.5	-	57.0	67.7	-	45.5	49.4	43.6	74.5	78.6	69.9
7/4/2016	6:05:00 PM	54.3	57.9	52.3	60.8	69.0	53.6	67.2	76.2	-	56.5	59.4	-	45.9	48.7	43.9	74.0	84.8	68.7
7/4/2016	6:06:00 PM	53.1	57.7	48.5	55.3	59.0	53.1	67.4	77.4	-	55.8	59.4	-	45.9	48.7	43.6	74.5	79.7	69.5
7/4/2016	6:07:00 PM	47.7	53.1	43.5	54.6	57.5	51.8	69.6	81.2	-	56.3	61.6	-	46.0	49.3	43.6	74.5	82.9	69.6
7/4/2016	6:08:00 PM	51.7	60.9	44.4	53.4	58.6	51.4	65.6	76.3	-	57.0	64.9	-	47.0	53.7	43.9	74.4	79.9	69.5
7/4/2016	6:09:00 PM	47.4	53.7	45.3	55.4	61.6	51.7	66.6	78.6	-	56.3	66.0	-	46.2	49.5	43.7	74.9	84.2	69.9
7/4/2016	6:10:00 PM	53.1	58.1	45.3	59.7	64.9	55.6	64.8	75.6	-	56.4	67.5	-	46.2	51.7	43.7	74.3	82.7	68.7
7/4/2016	6:11:00 PM	54.5	56.1	53.3	57.4	60.2	54.4	70.0	82.2	-	57.8	66.0	-	46.4	51.7	43.7	75.7	83.2	71.3
7/4/2016	6:12:00 PM	53.7	55.5	52.4	56.8	61.0	54.8	68.4	80.3	-	54.8	57.4	-	47.0	51.9	44.3	75.4	82.8	71.4
7/4/2016	6:13:00 PM	53.1	56.7	51.8	56.6	59.6	54.1	66.3	77.3	-	54.9	58.4	-	47.5	51.4	44.8	75.5	81.7	71.3
7/4/2016	6:14:00 PM	53.5	57.0	52.3	60.4	64.8	56.6	68.2	79.4	-	55.2	58.9	-	46.4	51.7	43.2	74.2	77.8	69.0
7/4/2016	6:15:00 PM	54.4	60.2	52.3	59.9	65.2	53.4	68.0	80.2	-	56.2	60.4	-	46.5	53.2	43.9	74.7	78.5	68.1
7/4/2016	6:16:00 PM	53.5	57.7	52.3	54.0	57.9	50.0	68.2	84.0	-	57.7	66.6	-	46.1	50.6	43.8	75.1	81.5	67.1
7/4/2016	6:17:00 PM	53.8	64.4	52.1	55.1	61.5	51.0	69.4	81.1	-	57.0	61.6	-	46.5	52.0	44.1	74.9	81.8	69.5
7/4/2016	6:18:00 PM	58.5	62.9	53.4	54.6	61.0	50.7	70.2	82.2	-	56.9	60.9	-	46.8	53.1	43.5	74.2	80.0	69.9
7/4/2016	6:19:00 PM	54.6	59.3	52.5	57.6	65.4	52.0	70.9	82.9	-	56.4	61.4	-	47.2	64.9	43.6	73.2	79.2	70.2
7/4/2016	6:20:00 PM	53.5	57.7	51.9	58.2	64.4	52.9	66.7	74.5	-	56.9	64.6	-	46.4	52.8	43.3	72.8	79.5	69.2
7/4/2016	6:21:00 PM	52.8	55.3	51.9	62.5	69.0	55.7	68.6	85.1	-	56.2	60.4	-	46.8	51.3	44.3	72.6	75.9	70.2
7/4/2016	6:22:00 PM	53.1	54.8	52.0	59.0	67.8	53.6	71.0	83.0	-	56.3	63.2	-	47.3	53.6	44.1	72.0	76.1	66.9
7/4/2016	6:23:00 PM	53.1	55.4	52.0	60.9	70.2	54.2	70.0	82.3	-	59.4	69.1	-	47.3	52.8	44.2	72.8	79.7	69.2
7/4/2016	6:24:00 PM	53.4	57.3	52.1	57.5	63.2	54.2	70.8	83.8	-	56.7	60.8	-	46.6	52.1	43.3	72.4	76.1	68.3
7/4/2016	6:25:00 PM	54.5	62.8	52.6	60.7	69.2	56.4	71.1	83.6	-	57.1	61.8	-	47.0	52.9	43.9	72.5	77.2	68.7
7/4/2016	6:26:00 PM	53.5	56.9	52.1	58.6	62.1	54.7	69.1	81.3	-	56.7	63.2	-	47.2	52.0	44.3	72.8	76.9	68.3
7/4/2016	6:27:00 PM	54.9	63.1	52.7	60.4	67.3	56.2	71.7	84.7	-	57.3	68.0	-	47.2	53.8	44.5	72.6	77.0	67.6
7/4/2016	6:28:00 PM	56.6	64.7	53.1	57.1	60.1	55.0	67.0	74.1	-	55.6	59.9	-	47.5	54.4	44.2	72.9	79.9	66.9
7/4/2016	6:29:00 PM	58.4	70.7	52.8	61.2	70.4	56.6	66.8	73.8	-	56.3	66.5	-	46.9	52.0	44.3	80.1	93.1	67.6
7/4/2016	6:30:00 PM	58.4	71.1	53.8	61.0	66.1	57.9	71.0	82.5	-	57.4	63.7	-	46.7	52.7	44.1	73.1	77.4	68.4
7/4/2016	6:31:00 PM	53.3	55.3	52.1	61.4	66.4	57.0	71.3	88.6	-	55.7	61.1	-	47.2	55.8	44.5	72.8	76.9	67.9
7/4/2016	6:32:00 PM	56.2	76.6	52.3	60.0	70.7	56.5	67.9	78.6	-	56.3	62.4	-	47.2	51.2	44.1	72.8	78.2	67.9
7/4/2016	6:33:00 PM	53.2	58.9	52.0	64.0	69.9	56.7	71.1	82.0	-	58.0	66.0	-	46.8	51.9	44.3	72.7	78.3	68.6
7/4/2016	6:34:00 PM	53.0	55.6	51.8	59.8	63.9	55.4	67.9	79.2	-	57.2	64.9	-	46.4	51.0	44.1	72.4	75.9	69.6
7/4/2016	6:35:00 PM	56.1	73.2	52.1	57.2	66.9	53.2	69.6	81.4	-	57.5	60.8	-	46.9	53.8	44.4	72.3	78.9	69.1
7/4/2016	6:36:00 PM	54.0	63.3	52.4	60.3	64.5	55.9	71.7	83.3	-	57.6	67.2	-	46.7	52.1	44.0	72.4	78.6	67.9
7/4/2016	6:37:00 PM	53.6	57.7	52.1	59.8	65.1	56.3	74.0	82.7	-	58.2	63.1	-	47.3	52.2	44.0	73.7	79.5	69.3
7/4/2016	6:38:00 PM	54.1	62.8	52.0	60.7	67.6	55.0	67.7	80.1	-	56.8	59.1	-	47.8	53.3	45.2	73.0	82.5	68.2
7/4/2016	6:39:00 PM	54.9	66.9	52.0	59.6	67.6	54.8	67.4	82.8	-	59.2	66.8	-	48.1	50.9	45.9	72.8	77.8	69.3
7/4/2016	6:40:00 PM	52.8	60.2	51.8	59.9	68.4	53.3	67.2	79.6	-	56.5	61.4	-	47.0	51.7	44.6	71.7	78.0	68.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	6:41:00 PM	54.9	59.4	52.1	58.4	65.9	54.5	67.4	79.6	-	55.8	58.9	-	46.4	53.0	43.6	72.0	78.1	68.5
7/4/2016	6:42:00 PM	57.9	64.3	52.6	55.6	58.9	52.6	69.6	79.7	-	56.0	61.7	-	46.0	49.7	44.1	72.0	77.0	69.0
7/4/2016	6:43:00 PM	53.1	60.3	51.7	56.2	59.2	53.5	67.5	85.3	-	56.6	63.5	-	46.4	51.0	43.9	72.1	76.3	69.1
7/4/2016	6:44:00 PM	53.0	57.2	51.8	62.1	68.4	55.2	66.1	74.6	-	58.8	66.7	-	46.6	51.7	44.7	72.2	80.5	68.5
7/4/2016	6:45:00 PM	53.0	59.5	51.9	62.0	67.2	57.4	67.2	79.5	-	56.9	61.5	-	46.8	52.7	44.8	71.7	75.4	68.6
7/4/2016	6:46:00 PM	52.8	58.8	51.9	63.2	68.2	59.3	69.0	80.4	-	56.5	60.1	-	46.7	49.7	44.4	71.8	76.2	69.0
7/4/2016	6:47:00 PM	53.0	54.9	52.1	62.1	69.8	55.8	67.3	81.5	-	57.2	62.7	-	47.4	50.5	44.9	71.6	74.8	68.7
7/4/2016	6:48:00 PM	54.5	61.6	51.8	60.4	70.9	55.2	71.6	91.6	-	56.9	65.0	-	47.4	54.5	44.9	71.9	77.8	68.4
7/4/2016	6:49:00 PM	53.5	55.4	52.3	58.7	62.3	55.6	69.0	82.2	-	56.5	60.8	-	46.9	49.8	44.3	72.2	80.7	68.3
7/4/2016	6:50:00 PM	52.8	59.8	51.8	58.0	63.8	54.4	72.2	85.7	-	56.4	60.9	-	46.8	56.2	44.0	72.0	77.6	68.5
7/4/2016	6:51:00 PM	53.0	58.5	51.8	58.3	65.1	54.2	73.9	85.5	-	56.8	62.9	-	47.0	56.3	44.4	71.9	74.9	68.3
7/4/2016	6:52:00 PM	53.3	56.1	52.3	56.4	62.0	52.7	74.3	88.1	-	56.7	63.4	-	47.0	51.2	45.1	72.0	79.5	67.9
7/4/2016	6:53:00 PM	55.2	59.3	52.2	57.3	63.8	53.9	71.8	82.2	-	57.1	64.4	-	46.5	49.3	44.6	73.1	81.4	68.7
7/4/2016	6:54:00 PM	54.0	56.9	52.2	56.5	62.0	51.7	76.4	89.3	-	56.8	63.7	-	46.9	50.6	44.6	71.9	76.8	69.3
7/4/2016	6:55:00 PM	53.5	56.1	52.0	56.5	62.8	51.7	80.3	91.4	-	56.4	61.8	-	46.5	51.8	44.4	72.3	79.2	69.5
7/4/2016	6:56:00 PM	53.9	58.0	52.2	58.3	68.8	53.3	78.3	94.6	-	57.4	66.9	-	46.2	50.4	44.2	71.7	76.3	68.6
7/4/2016	6:57:00 PM	54.7	61.3	52.5	58.3	64.1	51.7	71.2	82.7	-	57.0	62.6	-	46.9	50.9	44.7	78.1	97.3	68.6
7/4/2016	6:58:00 PM	54.0	62.7	52.5	54.2	57.9	51.3	72.8	89.3	-	57.7	66.0	-	47.2	55.4	44.4	71.1	75.9	66.9
7/4/2016	6:59:00 PM	54.8	66.5	52.5	61.3	68.3	53.5	77.1	94.4	-	58.0	69.4	-	47.3	54.4	44.4	71.7	77.9	68.4
7/4/2016	7:00:00 PM	59.6	75.6	52.6	60.2	67.3	53.5	68.4	84.1	-	55.8	64.1	-	46.7	56.0	44.2	72.3	76.9	68.6
7/4/2016	7:01:00 PM	58.2	71.0	53.1	57.4	62.9	53.5	67.2	82.0	-	56.3	62.3	-	46.3	56.1	44.3	72.6	77.7	70.4
7/4/2016	7:02:00 PM	53.8	62.2	52.3	57.3	63.4	54.2	65.3	81.1	-	56.4	63.5	-	46.8	51.0	44.9	73.0	77.0	69.7
7/4/2016	7:03:00 PM	53.6	65.9	52.1	57.2	62.2	54.1	65.6	77.3	-	56.6	64.7	-	47.1	49.9	44.7	72.6	76.9	68.4
7/4/2016	7:04:00 PM	53.2	55.9	52.2	59.3	69.6	54.1	66.4	75.9	-	57.3	64.8	-	47.0	52.8	44.7	71.9	76.7	68.8
7/4/2016	7:05:00 PM	57.9	65.9	53.0	60.5	69.4	55.0	68.3	84.2	-	55.5	59.1	-	47.1	55.4	44.6	72.1	79.8	68.6
7/4/2016	7:06:00 PM	53.9	59.9	52.2	58.1	64.4	52.4	69.4	80.2	-	56.4	62.3	-	46.9	50.3	44.4	72.9	78.0	67.3
7/4/2016	7:07:00 PM	52.7	54.3	51.7	60.0	64.6	53.6	66.8	78.0	-	56.0	59.4	-	47.0	50.7	44.6	74.5	81.2	70.5
7/4/2016	7:08:00 PM	53.1	58.7	51.7	63.3	68.5	56.9	66.4	75.3	-	54.4	57.3	-	46.8	49.6	44.4	74.3	80.4	70.6
7/4/2016	7:09:00 PM	53.5	61.8	51.9	60.8	68.2	55.8	70.1	83.0	-	56.0	58.9	-	46.9	51.3	44.5	73.9	78.0	69.8
7/4/2016	7:10:00 PM	52.7	56.0	51.7	60.0	64.1	56.4	69.3	80.9	-	56.2	60.1	-	46.7	50.2	44.4	72.3	78.6	67.5
7/4/2016	7:11:00 PM	52.9	57.0	51.5	56.5	61.1	53.8	69.5	79.3	-	56.4	62.9	-	46.8	55.2	44.3	74.1	78.7	69.0
7/4/2016	7:12:00 PM	52.6	54.0	51.7	57.2	61.5	54.2	67.9	81.9	-	56.9	61.3	-	46.7	50.1	44.5	73.5	78.1	68.2
7/4/2016	7:13:00 PM	53.0	54.9	51.6	56.2	60.1	53.0	69.9	81.0	-	58.6	69.2	-	47.4	51.7	44.8	74.0	79.9	68.4
7/4/2016	7:14:00 PM	52.6	54.9	51.2	55.8	61.0	53.2	68.8	83.9	-	58.0	66.1	-	47.7	53.3	45.1	73.7	81.7	67.3
7/4/2016	7:15:00 PM	52.2	55.0	51.3	59.5	65.4	53.9	68.1	81.4	-	56.0	59.0	-	47.3	50.9	44.3	71.9	77.3	67.3
7/4/2016	7:16:00 PM	53.2	57.8	51.6	58.5	65.9	54.3	68.3	80.7	-	57.0	60.6	-	46.8	52.4	44.2	72.3	78.2	68.1
7/4/2016	7:17:00 PM	56.0	61.3	52.7	58.4	67.9	53.3	68.7	78.5	-	58.5	67.2	-	46.4	50.1	44.0	72.4	78.1	68.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	7:18:00 PM	55.2	62.5	51.8	60.2	68.1	54.7	73.5	86.2	-	56.8	63.1	-	47.1	52.3	44.2	72.1	76.1	68.5
7/4/2016	7:19:00 PM	52.8	58.1	51.4	60.9	70.5	54.1	73.6	90.4	-	58.0	65.7	-	46.4	49.5	44.0	73.7	84.9	65.9
7/4/2016	7:20:00 PM	52.5	54.9	51.5	64.2	70.3	56.9	72.4	87.3	-	56.9	61.5	-	45.9	50.9	44.0	72.2	78.6	67.8
7/4/2016	7:21:00 PM	52.8	56.4	51.3	61.1	69.8	54.4	73.1	80.9	-	57.6	64.2	-	45.6	48.8	43.2	73.2	79.7	68.3
7/4/2016	7:22:00 PM	53.3	62.6	51.7	56.5	68.2	52.7	70.3	87.1	-	56.4	60.0	-	45.7	49.4	43.1	72.3	79.3	67.1
7/4/2016	7:23:00 PM	52.6	54.1	51.7	63.2	73.3	52.8	68.8	79.8	-	57.2	65.4	-	46.7	51.2	44.1	72.9	78.0	69.2
7/4/2016	7:24:00 PM	52.5	54.2	51.7	59.2	62.6	55.1	70.4	83.1	-	56.8	60.7	-	45.8	53.3	43.7	73.0	78.7	67.2
7/4/2016	7:25:00 PM	52.8	57.7	51.4	59.2	65.3	54.4	70.2	83.5	-	56.2	61.3	-	45.0	47.5	43.1	73.2	79.6	68.4
7/4/2016	7:26:00 PM	52.2	54.5	51.3	57.0	66.7	52.0	68.1	80.9	-	56.8	60.9	-	45.9	49.8	43.5	71.6	77.4	66.6
7/4/2016	7:27:00 PM	52.3	53.2	51.5	56.9	63.1	53.0	70.7	86.6	-	57.9	61.4	-	45.4	49.1	43.1	73.2	81.1	66.7
7/4/2016	7:28:00 PM	52.2	55.1	51.3	61.1	69.6	56.3	68.5	81.1	-	58.1	66.7	-	45.2	48.7	42.7	72.5	80.9	67.9
7/4/2016	7:29:00 PM	54.4	58.3	51.6	64.4	72.9	58.2	70.3	84.8	-	57.1	60.0	-	45.0	49.3	42.7	72.9	80.9	66.1
7/4/2016	7:30:00 PM	56.0	61.7	52.0	60.2	67.2	55.2	67.3	76.2	-	56.7	59.3	-	45.6	50.9	43.2	70.8	75.5	66.7
7/4/2016	7:31:00 PM	55.2	62.8	52.3	59.9	66.9	55.4	66.5	81.6	-	57.8	67.2	-	45.1	51.5	42.1	71.4	75.7	67.8
7/4/2016	7:32:00 PM	52.7	56.8	51.8	58.7	65.2	53.5	67.4	76.5	-	58.4	62.6	-	45.0	48.3	42.3	71.6	75.5	68.1
7/4/2016	7:33:00 PM	52.5	53.9	51.7	62.8	70.4	56.4	66.5	74.4	-	56.9	66.4	-	45.0	48.2	42.4	70.5	75.0	66.9
7/4/2016	7:34:00 PM	53.1	57.2	51.8	59.6	69.6	55.5	69.7	81.4	-	58.8	62.6	-	45.1	50.2	42.7	71.1	75.3	65.8
7/4/2016	7:35:00 PM	53.1	54.8	52.2	62.5	68.5	58.8	68.8	81.9	-	63.4	74.1	-	47.3	53.9	43.0	71.9	75.8	68.0
7/4/2016	7:36:00 PM	52.7	54.0	51.9	61.1	66.6	57.9	66.4	77.2	-	58.4	62.8	-	52.2	58.2	47.3	72.2	75.9	68.1
7/4/2016	7:37:00 PM	52.6	54.6	51.7	61.7	69.2	56.7	67.7	79.4	-	58.1	61.3	-	48.7	60.3	44.4	72.7	76.9	69.2
7/4/2016	7:38:00 PM	53.2	54.5	52.0	60.4	63.9	57.3	69.4	83.2	-	58.1	61.8	-	46.4	54.3	44.0	72.1	76.5	67.6
7/4/2016	7:39:00 PM	52.9	54.4	51.7	63.4	69.6	57.9	71.4	84.7	-	57.9	61.8	-	45.5	50.3	42.9	72.2	77.5	67.7
7/4/2016	7:40:00 PM	52.8	56.3	51.7	61.0	66.6	56.5	70.8	82.7	-	60.3	68.2	-	44.6	49.1	42.4	71.6	75.9	66.8
7/4/2016	7:41:00 PM	53.0	56.7	51.6	61.3	68.0	57.1	73.4	85.2	-	58.9	70.8	-	45.0	50.7	42.4	69.8	76.2	65.9
7/4/2016	7:42:00 PM	52.9	57.7	51.6	62.8	71.6	57.1	75.0	93.5	-	56.9	65.9	-	45.1	48.5	42.8	72.4	77.3	67.0
7/4/2016	7:43:00 PM	52.5	59.6	51.6	63.8	69.6	57.2	68.5	81.4	-	57.7	62.1	-	45.4	50.1	43.0	72.4	75.8	68.0
7/4/2016	7:44:00 PM	53.1	65.2	51.6	61.9	68.6	56.2	66.4	77.5	-	58.5	64.0	-	45.7	49.1	43.0	72.3	78.8	68.5
7/4/2016	7:45:00 PM	53.0	55.7	51.8	61.5	66.0	58.2	68.0	79.8	-	58.5	65.2	-	46.2	49.5	42.7	72.1	76.1	67.5
7/4/2016	7:46:00 PM	52.8	56.5	51.4	62.1	67.0	57.4	67.0	78.1	-	59.2	64.7	-	47.0	51.2	43.9	72.3	77.8	67.7
7/4/2016	7:47:00 PM	52.3	54.9	51.3	63.0	77.8	58.1	67.8	80.1	-	59.7	64.6	-	45.2	48.4	43.1	72.5	78.2	67.7
7/4/2016	7:48:00 PM	52.4	55.5	51.5	59.9	67.0	56.8	68.0	77.5	-	58.7	63.8	-	47.6	51.3	44.0	72.4	77.5	67.3
7/4/2016	7:49:00 PM	52.3	59.7	51.3	59.5	67.6	56.0	68.1	77.0	-	59.2	66.7	-	45.7	53.6	43.4	72.0	76.5	67.1
7/4/2016	7:50:00 PM	52.1	54.3	51.2	59.7	66.3	56.1	68.1	82.2	-	58.4	66.6	-	44.5	47.0	42.6	72.1	77.2	67.6
7/4/2016	7:51:00 PM	52.3	54.1	51.3	58.8	65.2	54.0	70.6	85.1	-	60.5	69.0	-	45.3	48.2	43.1	73.4	82.5	69.0
7/4/2016	7:52:00 PM	52.1	53.3	51.2	62.0	68.6	54.5	67.5	77.9	-	59.2	67.5	-	45.4	53.8	43.3	73.5	80.0	68.6
7/4/2016	7:53:00 PM	52.5	53.9	51.3	66.6	71.0	57.5	74.3	84.7	-	58.8	62.3	-	45.7	49.7	43.5	72.4	76.4	66.0
7/4/2016	7:54:00 PM	52.6	55.1	51.7	57.9	66.4	53.6	74.5	86.2	-	58.0	60.8	-	45.6	49.1	43.4	72.6	76.6	67.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	7:55:00 PM	54.2	60.7	51.6	57.8	66.6	53.7	72.0	85.1	-	58.4	63.1	-	45.6	53.1	42.9	72.4	77.0	68.3
7/4/2016	7:56:00 PM	53.7	70.2	51.3	61.5	68.2	56.9	72.6	91.4	-	57.7	60.4	-	44.7	48.1	41.9	72.1	78.4	67.4
7/4/2016	7:57:00 PM	53.1	65.8	51.3	59.3	71.5	53.8	72.3	85.6	-	57.5	62.3	-	45.0	56.9	42.3	72.5	77.3	67.3
7/4/2016	7:58:00 PM	53.2	56.7	51.8	62.6	69.6	54.7	71.4	84.0	-	57.6	60.4	-	45.3	48.7	42.8	72.8	76.6	68.9
7/4/2016	7:59:00 PM	52.8	55.9	51.6	59.2	67.6	55.6	71.3	84.5	-	58.4	64.6	-	45.4	48.7	42.9	72.6	77.4	67.6
7/4/2016	8:00:00 PM	57.1	60.9	52.6	60.8	74.8	54.8	68.1	79.8	-	59.0	62.5	-	46.1	50.3	43.1	73.6	80.7	67.4
7/4/2016	8:01:00 PM	54.6	59.7	51.8	61.4	68.4	56.4	66.1	77.8	-	58.4	60.5	-	45.6	48.5	43.1	74.8	80.0	68.9
7/4/2016	8:02:00 PM	52.6	58.7	51.4	60.6	65.2	56.6	77.6	93.8	-	58.0	61.9	-	45.4	49.7	43.0	74.3	80.1	66.6
7/4/2016	8:03:00 PM	52.6	60.7	51.4	60.1	66.7	55.5	66.4	82.6	-	58.8	62.3	-	45.7	50.1	43.3	73.2	79.5	67.5
7/4/2016	8:04:00 PM	52.1	53.0	51.2	62.1	72.0	55.8	68.6	87.8	-	56.8	60.8	-	45.7	52.2	43.3	72.3	75.8	66.5
7/4/2016	8:05:00 PM	52.3	53.7	51.3	58.1	62.2	55.3	69.5	81.4	-	58.2	65.9	-	45.6	49.8	43.5	72.5	77.4	67.6
7/4/2016	8:06:00 PM	53.4	56.4	51.8	59.6	68.3	56.0	74.3	87.9	-	57.1	59.7	-	45.8	50.5	42.7	73.2	77.9	67.2
7/4/2016	8:07:00 PM	52.1	53.5	51.3	61.6	68.6	56.4	67.9	81.9	-	57.9	62.0	-	46.3	49.8	43.5	73.1	78.6	67.7
7/4/2016	8:08:00 PM	52.4	61.3	51.1	58.4	65.2	55.1	66.0	80.9	-	57.7	61.8	-	45.6	49.8	43.5	73.3	79.1	68.5
7/4/2016	8:09:00 PM	52.1	55.3	51.2	58.2	64.0	55.8	68.5	88.2	-	57.2	60.4	-	45.6	55.3	43.0	72.6	76.4	68.0
7/4/2016	8:10:00 PM	52.1	55.5	51.2	58.1	65.4	54.9	63.0	74.9	-	57.5	61.6	-	45.5	52.2	43.2	72.9	77.1	67.3
7/4/2016	8:11:00 PM	52.5	55.6	51.6	61.0	67.2	56.5	61.1	71.0	-	58.2	61.8	-	45.0	51.3	42.7	73.2	78.7	68.4
7/4/2016	8:12:00 PM	52.6	58.2	51.6	65.2	71.2	57.4	61.8	72.5	-	56.2	59.8	-	44.6	49.2	41.7	72.9	77.9	68.8
7/4/2016	8:13:00 PM	52.9	58.8	51.6	63.5	72.4	57.6	62.7	70.8	-	55.5	59.3	-	44.5	50.7	42.2	73.2	77.1	69.2
7/4/2016	8:14:00 PM	53.3	64.0	51.8	60.9	68.8	57.0	64.3	74.0	-	57.7	61.0	-	44.8	50.5	42.0	72.1	78.2	67.3
7/4/2016	8:15:00 PM	54.0	63.2	52.2	60.2	66.6	54.4	66.4	84.2	-	58.9	63.1	-	47.2	54.9	42.8	72.4	76.2	68.4
7/4/2016	8:16:00 PM	53.4	61.9	51.8	59.3	74.4	54.8	71.9	86.0	-	58.0	63.0	-	44.6	47.8	41.8	72.6	78.5	68.1
7/4/2016	8:17:00 PM	54.1	59.2	52.6	64.9	73.9	55.8	71.2	83.7	-	58.4	62.2	-	44.8	54.8	42.9	72.6	81.0	68.3
7/4/2016	8:18:00 PM	53.7	56.2	52.3	62.6	69.6	55.9	73.0	92.5	-	58.1	61.3	-	45.2	47.9	42.6	74.5	79.3	69.0
7/4/2016	8:19:00 PM	54.4	57.1	52.6	64.2	71.1	55.9	69.2	81.1	-	57.8	68.7	-	45.9	61.8	42.8	74.4	79.2	70.4
7/4/2016	8:20:00 PM	57.7	64.2	52.9	59.4	64.6	56.7	72.4	90.0	-	57.3	68.2	-	45.0	50.2	42.7	75.2	82.2	68.9
7/4/2016	8:21:00 PM	61.7	68.8	53.5	59.4	64.7	55.5	69.5	84.1	-	57.4	65.1	-	45.5	62.1	42.8	73.5	78.7	67.9
7/4/2016	8:22:00 PM	55.5	67.6	53.4	63.8	72.3	56.4	72.2	89.6	-	57.4	66.9	-	45.3	60.6	42.6	73.9	78.9	69.4
7/4/2016	8:23:00 PM	62.4	68.9	54.1	60.0	73.2	56.5	71.5	87.4	-	57.3	60.2	-	46.3	58.8	42.2	72.9	79.8	68.0
7/4/2016	8:24:00 PM	53.8	59.2	51.9	60.0	78.3	55.8	74.9	89.9	-	56.9	65.7	-	47.3	69.1	42.8	74.1	80.3	69.3
7/4/2016	8:25:00 PM	52.5	55.7	51.6	60.2	65.0	56.3	75.4	94.7	-	55.9	59.8	-	45.6	52.7	42.8	74.6	79.3	70.8
7/4/2016	8:26:00 PM	52.6	58.8	51.5	58.0	63.2	55.2	75.7	89.0	-	56.0	58.5	-	44.7	51.4	42.4	74.4	79.2	69.7
7/4/2016	8:27:00 PM	52.3	54.7	51.4	57.7	61.6	55.3	75.1	91.3	-	58.8	68.6	-	51.6	76.3	41.9	74.1	77.9	67.3
7/4/2016	8:28:00 PM	54.7	61.8	51.9	59.0	65.2	55.7	75.9	91.0	-	56.7	65.2	-	44.5	51.1	41.5	74.1	77.7	70.4
7/4/2016	8:29:00 PM	57.5	65.8	51.5	61.8	68.1	56.4	68.6	80.1	-	56.1	59.1	-	43.7	52.7	41.4	74.3	79.0	68.5
7/4/2016	8:30:00 PM	59.9	67.3	53.3	63.3	68.4	56.8	73.3	86.8	-	57.5	78.1	-	43.7	54.3	41.5	73.7	78.1	68.8
7/4/2016	8:31:00 PM	58.0	76.1	52.1	59.2	63.8	56.3	73.0	90.1	-	56.4	65.6	-	44.2	52.9	42.2	73.3	76.7	68.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	8:32:00 PM	52.5	56.6	51.4	60.3	71.7	54.5	68.6	83.4	-	57.5	61.4	-	44.3	54.0	42.1	74.9	82.0	70.7
7/4/2016	8:33:00 PM	54.1	62.6	51.7	57.9	62.9	55.7	68.9	87.2	-	58.3	65.2	-	43.8	54.7	41.5	74.5	79.9	70.9
7/4/2016	8:34:00 PM	60.8	67.9	54.1	59.9	66.3	55.6	70.0	83.3	-	56.9	62.5	-	44.0	57.1	41.5	74.1	79.3	70.5
7/4/2016	8:35:00 PM	58.5	71.0	52.1	60.8	70.6	56.3	69.6	84.2	-	58.3	68.4	-	53.5	68.0	43.0	74.4	78.1	70.8
7/4/2016	8:36:00 PM	53.2	57.7	51.7	59.7	63.3	57.5	67.9	81.0	-	56.6	76.5	-	45.1	56.5	42.7	73.5	77.9	68.3
7/4/2016	8:37:00 PM	52.7	59.0	51.5	60.2	65.2	57.2	67.4	81.1	-	54.8	58.2	-	44.0	51.8	41.7	74.4	77.8	71.5
7/4/2016	8:38:00 PM	52.4	56.8	51.4	60.8	63.2	58.3	62.7	71.0	-	55.8	59.0	-	43.8	50.6	41.7	74.4	79.1	70.2
7/4/2016	8:39:00 PM	53.2	63.9	51.5	60.1	63.0	58.2	64.5	75.8	-	57.1	64.7	-	44.7	56.9	41.5	73.4	79.2	70.0
7/4/2016	8:40:00 PM	54.7	68.8	51.3	60.6	64.7	58.3	63.0	70.6	-	57.8	70.1	-	44.6	50.9	41.7	72.4	76.1	69.7
7/4/2016	8:41:00 PM	57.6	61.7	52.1	65.1	72.8	58.5	66.7	81.3	-	57.4	72.4	-	44.9	58.5	41.7	72.0	75.9	68.7
7/4/2016	8:42:00 PM	55.8	75.9	51.9	63.9	70.8	59.3	66.7	78.6	-	57.4	61.5	-	50.5	75.5	42.1	73.5	77.2	70.2
7/4/2016	8:43:00 PM	52.7	54.6	51.5	67.6	71.3	64.7	73.1	95.5	-	56.0	59.1	-	45.5	64.2	40.8	74.0	79.4	70.6
7/4/2016	8:44:00 PM	56.5	64.9	52.2	67.2	70.5	64.7	62.3	71.2	-	56.8	62.7	-	43.7	52.8	40.4	74.0	78.3	70.0
7/4/2016	8:45:00 PM	59.0	67.4	52.3	64.0	71.7	55.9	64.7	76.7	-	56.7	59.0	-	43.9	61.4	41.0	74.1	77.9	69.6
7/4/2016	8:46:00 PM	53.0	60.5	51.5	59.3	65.9	55.9	61.6	78.6	-	56.8	61.2	-	43.9	57.5	41.2	74.3	79.0	67.8
7/4/2016	8:47:00 PM	55.1	64.2	52.5	58.1	65.8	55.2	65.2	72.1	-	56.9	62.6	-	49.8	71.2	41.6	74.9	90.5	68.8
7/4/2016	8:48:00 PM	53.9	56.6	52.0	62.8	70.1	56.1	59.0	68.3	-	56.6	63.1	-	48.0	70.9	41.1	73.8	78.0	69.9
7/4/2016	8:49:00 PM	52.9	55.2	51.9	57.6	62.3	53.7	58.4	67.2	-	55.0	57.8	-	48.4	71.1	40.9	74.4	79.5	69.2
7/4/2016	8:50:00 PM	54.1	58.9	51.5	61.9	74.6	55.3	57.6	70.5	-	55.9	60.5	-	49.5	70.8	41.3	73.3	79.8	68.0
7/4/2016	8:51:00 PM	52.6	58.4	51.4	65.0	73.8	56.3	56.7	70.6	-	56.3	65.1	-	46.0	66.1	41.4	75.5	90.8	67.7
7/4/2016	8:52:00 PM	57.2	63.4	51.7	60.6	67.6	55.8	56.8	73.4	-	56.0	64.5	-	46.5	67.6	40.4	75.4	86.7	70.6
7/4/2016	8:53:00 PM	55.3	61.7	51.8	58.7	70.7	54.6	55.9	63.2	-	54.8	61.7	-	45.5	65.0	40.4	74.4	78.7	70.5
7/4/2016	8:54:00 PM	53.3	56.1	51.6	60.0	73.7	55.5	55.9	68.9	-	56.2	60.4	-	46.0	55.0	41.5	75.8	91.2	69.1
7/4/2016	8:55:00 PM	60.8	68.4	52.8	58.6	64.4	54.9	59.0	74.4	-	56.6	72.1	-	43.3	49.9	40.4	76.6	86.6	71.1
7/4/2016	8:56:00 PM	55.7	63.0	51.6	58.6	67.6	55.9	55.7	66.5	-	57.7	67.1	-	43.2	57.1	40.2	77.3	83.4	72.7
7/4/2016	8:57:00 PM	52.6	63.5	51.2	63.3	77.3	56.0	58.1	79.7	-	59.9	73.3	-	43.3	55.6	40.1	78.8	89.6	73.3
7/4/2016	8:58:00 PM	52.1	57.4	50.9	79.2	102.0	56.7	58.7	64.2	-	56.2	59.4	-	43.0	53.3	39.6	77.8	83.9	74.3
7/4/2016	8:59:00 PM	52.1	56.8	50.9	60.0	67.8	55.6	56.2	66.7	-	57.5	74.3	-	43.1	57.0	39.6	78.2	87.3	74.0
7/4/2016	9:00:00 PM	52.0	54.8	51.1	58.4	67.0	55.5	65.5	78.9	-	61.1	78.7	-	48.7	71.7	40.0	86.1	100.5	74.8
7/4/2016	9:01:00 PM	66.6	87.5	51.1	90.2	105.6	55.5	78.7	92.9	-	59.7	71.0	-	51.4	71.9	39.8	84.7	98.3	73.0
7/4/2016	9:02:00 PM	74.4	91.4	53.9	86.6	102.8	62.9	76.3	91.3	-	62.2	80.3	-	51.0	69.3	41.1	87.0	101.9	75.2
7/4/2016	9:03:00 PM	70.9	90.5	52.8	84.7	101.8	57.9	74.8	90.7	-	64.0	83.9	-	52.7	69.8	41.0	85.7	103.7	71.1
7/4/2016	9:04:00 PM	70.6	90.9	51.9	89.8	104.1	62.9	76.9	93.8	-	61.3	77.5	-	51.1	71.4	39.2	86.7	104.4	70.6
7/4/2016	9:05:00 PM	70.7	88.9	52.7	87.9	102.9	61.5	74.9	91.0	-	62.8	80.0	-	52.9	71.9	40.1	84.6	100.6	66.8
7/4/2016	9:06:00 PM	71.8	92.1	53.4	87.4	102.5	61.4	74.6	91.0	-	64.7	83.9	-	49.3	66.1	40.5	83.2	99.3	68.8
7/4/2016	9:07:00 PM	75.7	98.7	52.5	86.0	102.2	55.5	75.1	91.4	-	60.7	76.3	-	49.3	69.4	39.7	84.3	101.4	67.4
7/4/2016	9:08:00 PM	71.0	91.5	52.0	87.1	103.9	62.7	74.5	90.2	-	60.3	78.9	-	49.2	67.0	40.6	83.4	98.2	67.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	9:09:00 PM	66.8	86.3	52.0	86.5	102.6	60.3	75.9	91.4	-	61.9	80.4	-	49.8	70.9	40.2	85.1	101.4	69.4
7/4/2016	9:10:00 PM	62.8	80.3	52.3	87.5	104.3	60.7	75.9	93.4	-	61.4	77.7	-	54.1	74.4	40.7	85.8	102.0	71.1
7/4/2016	9:11:00 PM	71.9	89.3	52.3	89.4	102.6	60.8	74.6	92.2	-	62.2	80.1	-	50.3	69.8	39.8	83.3	98.6	69.1
7/4/2016	9:12:00 PM	72.9	90.4	51.8	85.8	106.1	59.9	75.4	91.5	-	64.1	83.9	-	48.5	63.5	40.0	84.5	101.6	68.7
7/4/2016	9:13:00 PM	70.8	91.4	51.9	88.1	107.1	59.9	74.5	90.1	-	63.5	84.1	-	50.7	70.6	40.5	85.4	103.1	69.5
7/4/2016	9:14:00 PM	63.6	79.9	52.2	85.7	100.0	59.2	76.2	92.3	-	65.1	78.1	-	52.2	69.5	41.0	84.9	103.2	69.2
7/4/2016	9:15:00 PM	68.3	86.8	52.9	88.2	104.1	56.7	75.3	90.5	-	65.7	79.7	-	48.9	66.8	40.1	87.0	106.6	70.2
7/4/2016	9:16:00 PM	69.4	87.5	52.0	85.6	100.5	59.9	80.7	92.9	-	64.8	83.7	-	50.6	71.7	40.4	85.9	101.8	72.0
7/4/2016	9:17:00 PM	64.3	81.3	51.9	87.7	104.1	59.1	81.2	95.9	-	63.7	80.1	-	55.7	75.7	39.8	95.0	107.2	78.5
7/4/2016	9:18:00 PM	73.2	92.4	52.6	94.6	106.5	62.6	71.3	86.3	-	68.7	83.6	-	55.4	71.4	41.9	77.6	87.2	71.0
7/4/2016	9:19:00 PM	77.0	95.7	56.7	88.6	104.5	59.1	66.6	79.9	-	59.9	77.4	-	47.3	59.7	40.6	75.1	81.9	70.6
7/4/2016	9:20:00 PM	61.6	75.4	52.1	62.0	69.6	58.2	57.9	70.1	-	57.9	78.3	-	42.8	54.9	39.8	75.0	79.4	71.4
7/4/2016	9:21:00 PM	67.2	77.2	51.1	62.3	75.3	57.6	57.0	72.2	-	66.5	78.5	-	43.5	52.3	40.2	72.1	83.1	67.2
7/4/2016	9:22:00 PM	52.6	62.0	50.9	64.3	75.3	56.6	55.8	72.7	-	58.6	77.4	-	42.8	51.7	39.9	70.4	82.6	66.4
7/4/2016	9:23:00 PM	57.4	72.3	51.2	59.1	64.4	55.6	59.8	73.9	-	55.6	60.7	-	42.6	54.2	39.2	70.8	74.7	67.1
7/4/2016	9:24:00 PM	53.0	60.8	51.4	59.3	63.2	56.7	61.8	77.1	-	60.8	80.5	-	43.6	54.1	40.8	69.7	80.5	65.3
7/4/2016	9:25:00 PM	52.4	63.1	51.1	59.3	63.2	56.1	56.8	66.5	-	55.5	62.3	-	42.5	48.5	39.8	70.5	83.8	65.7
7/4/2016	9:26:00 PM	52.2	56.6	51.4	58.8	64.0	56.8	54.4	64.7	-	60.3	69.1	-	41.6	50.9	38.9	69.3	73.1	65.7
7/4/2016	9:27:00 PM	52.2	54.3	51.3	58.8	61.8	56.9	56.6	69.1	-	58.2	64.4	-	42.9	54.2	39.4	70.4	82.5	66.5
7/4/2016	9:28:00 PM	53.0	65.0	51.2	61.1	68.0	56.1	55.4	64.5	-	61.6	74.5	-	44.0	52.6	40.2	69.2	75.2	65.7
7/4/2016	9:29:00 PM	52.9	67.0	51.5	58.8	61.3	56.6	58.3	70.7	-	57.9	68.6	-	42.8	50.6	40.0	69.4	73.5	65.4
7/4/2016	9:30:00 PM	53.3	63.6	51.7	60.7	67.0	56.6	60.6	73.4	-	56.2	60.5	-	42.3	47.9	39.9	69.9	84.0	65.0
7/4/2016	9:31:00 PM	52.9	56.4	51.8	61.9	65.7	59.2	53.7	63.0	-	56.0	69.4	-	42.2	47.3	39.8	69.3	75.4	65.5
7/4/2016	9:32:00 PM	53.5	59.3	52.3	61.7	69.1	58.7	56.4	71.1	-	55.6	60.7	-	42.2	55.2	39.8	69.8	76.3	65.7
7/4/2016	9:33:00 PM	53.4	56.3	51.8	59.5	64.2	56.9	52.9	63.2	-	57.0	59.8	-	42.9	58.9	39.7	70.5	76.2	66.4
7/4/2016	9:34:00 PM	53.1	58.7	51.7	58.4	62.3	56.2	52.9	57.8	-	56.2	59.7	-	41.9	54.9	39.1	69.9	75.5	65.3
7/4/2016	9:35:00 PM	53.0	57.4	51.7	58.8	62.3	56.6	54.8	59.1	-	56.6	67.1	-	41.4	51.2	38.9	69.9	75.2	65.7
7/4/2016	9:36:00 PM	54.0	57.3	52.4	62.5	73.6	56.2	56.7	77.3	-	57.2	62.1	-	42.1	53.7	39.1	70.1	74.8	65.5
7/4/2016	9:37:00 PM	53.5	56.6	52.2	66.9	76.0	56.3	54.0	71.6	-	56.4	62.0	-	41.9	49.0	39.9	69.5	80.0	65.3
7/4/2016	9:38:00 PM	54.2	60.5	52.3	63.7	69.7	56.7	52.2	60.7	-	56.9	61.1	-	42.6	60.3	39.4	69.8	74.8	65.2
7/4/2016	9:39:00 PM	54.7	61.0	52.7	62.5	69.6	58.3	52.1	70.2	-	55.4	59.8	-	41.9	47.1	39.6	69.0	76.4	65.2
7/4/2016	9:40:00 PM	52.8	54.9	51.6	59.0	62.8	56.8	53.5	74.8	-	57.0	63.5	-	41.5	47.6	39.2	69.0	75.7	63.8
7/4/2016	9:41:00 PM	59.0	82.5	52.0	65.8	73.4	56.7	52.3	63.3	-	58.8	66.6	-	41.7	45.3	39.1	69.4	75.2	63.4
7/4/2016	9:42:00 PM	53.1	57.5	52.0	62.1	69.0	57.7	53.1	67.5	-	57.9	67.7	-	42.0	45.5	39.2	69.0	74.0	64.7
7/4/2016	9:43:00 PM	54.2	58.0	51.9	59.6	67.3	57.0	51.7	55.7	-	56.7	58.5	-	46.9	52.2	40.4	69.8	74.8	65.4
7/4/2016	9:44:00 PM	54.8	60.0	52.5	59.3	66.3	56.3	51.0	54.6	-	57.4	60.8	-	41.8	46.9	39.4	69.6	73.5	64.8
7/4/2016	9:45:00 PM	55.6	57.4	53.1	58.4	61.3	55.7	51.5	56.2	-	57.6	60.8	-	42.2	50.7	39.4	70.9	90.7	64.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	9:46:00 PM	53.3	58.0	51.9	57.9	70.2	54.3	51.1	55.6	-	55.7	58.7	-	42.1	47.3	39.8	68.6	72.2	63.4
7/4/2016	9:47:00 PM	52.7	57.1	51.7	57.9	64.3	54.3	50.2	55.9	-	56.2	60.5	-	45.0	51.0	39.9	69.8	78.6	65.3
7/4/2016	9:48:00 PM	52.3	54.2	51.3	58.6	63.9	52.6	49.6	54.3	-	58.8	71.7	-	41.8	48.3	38.7	69.5	73.8	63.3
7/4/2016	9:49:00 PM	52.6	58.1	51.5	56.3	62.3	52.0	52.1	63.9	-	56.2	68.0	-	40.8	46.2	38.4	69.6	74.4	65.8
7/4/2016	9:50:00 PM	52.0	53.9	51.1	57.1	64.3	53.3	52.9	74.2	-	55.6	57.7	-	40.9	47.2	38.2	70.3	89.6	64.1
7/4/2016	9:51:00 PM	52.1	57.3	51.2	55.0	68.6	51.6	51.6	66.0	-	56.5	68.5	-	41.3	54.0	38.9	68.7	72.5	63.7
7/4/2016	9:52:00 PM	52.8	55.9	51.5	53.1	58.3	51.3	52.1	60.0	-	58.3	66.3	-	41.3	53.5	38.9	68.9	77.4	64.3
7/4/2016	9:53:00 PM	52.5	54.9	51.2	55.0	64.2	51.6	50.0	56.7	-	56.2	59.9	-	40.6	53.3	38.2	69.9	74.0	65.5
7/4/2016	9:54:00 PM	52.9	60.7	51.7	56.9	60.7	53.0	52.5	72.4	-	56.8	59.7	-	41.6	53.9	38.3	68.9	72.5	63.9
7/4/2016	9:55:00 PM	53.1	60.1	51.9	57.2	64.0	53.6	51.0	58.4	-	55.6	66.0	-	42.1	48.7	39.0	69.5	83.6	64.9
7/4/2016	9:56:00 PM	53.3	61.8	51.8	56.2	62.7	52.2	51.2	58.2	-	56.4	63.8	-	42.2	58.2	39.1	68.3	72.5	64.2
7/4/2016	9:57:00 PM	52.2	56.7	51.4	57.4	62.8	52.8	51.3	61.1	-	56.0	59.3	-	41.0	49.7	38.5	68.6	74.4	63.6
7/4/2016	9:58:00 PM	52.5	55.2	51.1	60.5	68.8	51.5	69.4	90.1	-	56.0	60.2	-	40.5	46.1	37.7	68.6	72.7	64.4
7/4/2016	9:59:00 PM	52.6	64.5	51.2	55.7	65.9	52.0	74.3	91.7	-	55.9	61.0	-	40.5	44.4	38.3	68.5	72.5	64.2
7/4/2016	10:00:00 PM	52.2	58.5	51.2	58.9	68.7	51.3	52.0	65.2	-	55.1	57.9	-	40.9	45.0	38.6	69.4	74.5	63.2
7/4/2016	10:01:00 PM	52.9	54.9	51.8	53.0	55.0	50.5	51.2	57.8	-	55.0	57.8	-	41.4	45.4	38.6	68.4	73.5	62.5
7/4/2016	10:02:00 PM	52.5	54.2	51.5	53.4	56.3	51.0	52.6	68.7	-	55.0	57.5	-	41.3	44.6	38.9	69.0	74.5	64.0
7/4/2016	10:03:00 PM	52.3	53.9	51.0	55.0	57.9	52.3	50.9	54.3	-	55.3	59.0	-	41.2	47.0	38.9	68.1	73.6	64.2
7/4/2016	10:04:00 PM	52.9	67.7	51.2	55.4	58.7	52.2	52.7	60.7	-	55.8	58.2	-	41.0	46.6	38.2	67.2	73.6	61.0
7/4/2016	10:05:00 PM	52.6	66.1	51.0	54.9	58.3	51.3	50.7	54.6	-	56.0	60.3	-	42.1	53.7	38.7	67.4	74.1	62.5
7/4/2016	10:06:00 PM	52.4	55.6	51.1	52.6	55.7	50.4	49.2	51.6	-	57.3	59.9	-	41.8	47.0	38.5	67.3	72.6	63.6
7/4/2016	10:07:00 PM	53.0	59.6	51.3	61.8	71.8	51.4	48.9	51.0	-	57.6	60.1	-	41.0	44.3	38.7	67.9	73.5	61.2
7/4/2016	10:08:00 PM	51.9	56.2	50.9	59.8	69.1	50.7	49.6	57.8	-	58.8	68.1	-	42.1	45.7	38.4	66.3	70.2	60.7
7/4/2016	10:09:00 PM	52.7	58.4	51.1	67.1	78.5	49.9	49.3	53.1	-	59.8	72.1	-	41.6	45.5	38.6	67.9	73.1	62.7
7/4/2016	10:10:00 PM	52.0	54.0	50.9	59.1	68.9	50.9	50.0	59.2	-	55.1	58.7	-	41.8	49.4	37.5	67.7	73.0	59.7
7/4/2016	10:11:00 PM	53.5	60.7	50.9	53.1	55.7	50.2	49.5	57.1	-	56.5	59.7	-	42.0	55.8	39.0	67.3	72.1	61.6
7/4/2016	10:12:00 PM	51.9	56.4	50.8	51.7	55.8	49.0	52.2	69.4	-	56.5	61.0	-	41.5	45.9	38.3	66.7	72.5	61.9
7/4/2016	10:13:00 PM	52.3	57.1	51.1	54.5	63.0	48.6	50.1	67.2	-	55.7	59.4	-	40.9	44.5	37.8	66.8	71.4	61.8
7/4/2016	10:14:00 PM	52.2	59.0	50.9	50.6	53.2	48.6	50.9	53.9	-	54.5	57.2	-	42.4	55.6	39.1	72.0	95.4	58.8
7/4/2016	10:15:00 PM	52.0	56.0	51.0	55.8	66.5	49.1	50.9	55.9	-	55.9	59.5	-	41.9	46.0	38.9	68.1	74.8	60.1
7/4/2016	10:16:00 PM	52.7	65.0	50.9	57.8	66.4	49.2	51.1	55.4	-	56.1	58.6	-	42.9	48.6	39.5	66.7	72.7	58.4
7/4/2016	10:17:00 PM	52.0	55.0	50.9	60.7	68.7	48.9	49.4	63.2	-	56.7	62.8	-	41.8	55.1	38.4	67.1	72.5	59.6
7/4/2016	10:18:00 PM	53.6	66.7	51.3	51.5	56.6	48.7	49.7	54.5	-	55.0	57.7	-	41.1	45.4	38.1	66.8	71.6	60.5
7/4/2016	10:19:00 PM	53.6	66.9	51.2	52.8	60.1	48.7	50.8	53.5	-	56.7	61.6	-	41.4	45.5	38.3	67.3	72.5	61.6
7/4/2016	10:20:00 PM	72.6	97.6	51.1	60.9	67.9	51.0	50.8	54.0	-	56.0	58.8	-	41.5	45.6	37.5	68.2	77.2	62.1
7/4/2016	10:21:00 PM	60.9	70.9	52.2	59.2	63.3	55.5	49.3	51.8	-	55.9	61.8	-	41.3	47.3	38.0	67.2	74.2	61.6
7/4/2016	10:22:00 PM	53.8	62.4	51.2	56.4	60.5	52.3	49.2	53.2	-	56.1	62.7	-	41.5	47.2	38.2	66.4	71.1	60.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	10:23:00 PM	52.0	54.6	50.8	55.0	58.6	51.7	48.9	54.9	-	56.0	63.2	-	43.2	48.4	39.0	67.3	74.1	58.6
7/4/2016	10:24:00 PM	52.2	57.3	51.1	56.7	60.3	53.1	50.5	58.5	-	57.4	61.0	-	41.4	45.3	38.2	66.4	73.2	59.0
7/4/2016	10:25:00 PM	52.3	55.0	51.3	55.3	59.0	51.9	49.3	62.0	-	56.6	60.8	-	40.7	44.5	37.5	67.8	73.8	61.6
7/4/2016	10:26:00 PM	52.4	55.2	51.2	56.1	61.2	52.3	50.0	55.0	-	57.1	61.2	-	42.6	46.5	39.7	67.7	73.2	58.8
7/4/2016	10:27:00 PM	53.6	56.0	51.3	53.1	55.9	50.6	50.6	57.2	-	57.5	61.2	-	41.4	45.0	38.7	66.8	73.3	58.7
7/4/2016	10:28:00 PM	52.2	55.0	50.9	53.9	57.6	51.1	49.6	60.5	-	55.6	58.7	-	41.2	45.9	38.2	69.7	90.1	61.8
7/4/2016	10:29:00 PM	51.7	55.3	50.7	52.8	60.8	49.1	49.9	59.8	-	56.1	63.4	-	41.4	47.5	38.5	66.0	71.2	59.8
7/4/2016	10:30:00 PM	52.4	55.7	50.9	50.9	58.2	49.0	48.8	52.1	-	57.0	59.4	-	41.2	44.7	38.5	66.4	71.4	59.7
7/4/2016	10:31:00 PM	52.4	63.0	51.1	49.6	51.7	47.7	47.5	50.3	-	57.3	63.8	-	41.0	45.8	38.0	70.8	93.9	56.7
7/4/2016	10:32:00 PM	52.1	53.9	51.2	49.1	51.0	47.6	48.7	53.9	-	58.4	66.7	-	43.1	64.3	37.8	67.2	72.4	59.2
7/4/2016	10:33:00 PM	52.2	56.0	51.2	49.4	52.4	47.6	48.0	52.1	-	57.6	60.6	-	41.0	44.1	38.1	67.4	73.8	59.8
7/4/2016	10:34:00 PM	52.0	52.9	51.2	52.6	56.8	48.3	48.2	56.3	-	57.9	61.8	-	42.2	60.8	38.9	76.9	101.3	62.9
7/4/2016	10:35:00 PM	52.5	56.5	51.2	50.2	54.1	47.2	48.1	53.4	-	56.8	60.3	-	41.4	47.2	38.4	67.3	73.8	60.1
7/4/2016	10:36:00 PM	51.9	54.1	51.0	49.6	52.4	47.3	47.9	57.3	-	55.5	57.9	-	41.4	49.0	38.5	66.0	72.0	61.1
7/4/2016	10:37:00 PM	47.4	56.4	37.1	51.0	52.8	49.6	48.1	53.9	-	55.9	59.1	-	41.8	45.9	39.3	68.7	74.5	63.5
7/4/2016	10:38:00 PM	42.6	57.2	37.7	64.5	72.8	49.6	47.9	51.4	-	56.0	58.8	-	41.0	46.0	38.0	67.6	73.3	61.4
7/4/2016	10:39:00 PM	43.7	55.0	39.7	56.2	67.9	48.2	51.1	67.2	-	55.9	59.1	-	41.1	47.1	38.0	67.0	72.4	59.8
7/4/2016	10:40:00 PM	47.1	58.7	40.2	51.7	59.2	48.0	48.6	52.4	-	56.1	60.3	-	41.0	45.9	37.5	67.2	71.6	61.3
7/4/2016	10:41:00 PM	45.4	50.5	41.0	54.8	61.8	50.5	47.9	50.6	-	56.5	60.2	-	41.2	46.8	38.2	68.3	74.6	60.6
7/4/2016	10:42:00 PM	48.3	59.1	43.0	53.7	57.0	50.3	48.3	57.7	-	55.9	58.9	-	41.2	46.8	38.1	67.4	72.5	62.4
7/4/2016	10:43:00 PM	45.9	52.8	41.6	59.9	65.5	54.0	53.1	71.7	-	55.8	63.4	-	40.9	45.2	38.1	67.6	73.4	63.1
7/4/2016	10:44:00 PM	43.6	51.7	39.9	58.2	64.1	53.2	47.8	52.2	-	56.4	66.7	-	43.0	49.1	38.4	66.7	71.9	60.4
7/4/2016	10:45:00 PM	43.1	49.7	38.3	65.8	76.1	56.0	49.0	61.7	-	55.8	61.4	-	41.0	45.1	38.1	66.4	72.8	58.8
7/4/2016	10:46:00 PM	44.7	61.4	37.5	58.3	63.2	54.8	48.3	55.3	-	56.9	60.9	-	41.7	59.3	37.7	76.5	100.8	59.8
7/4/2016	10:47:00 PM	44.1	50.9	39.9	57.8	65.2	54.0	47.7	50.6	-	56.2	59.5	-	40.9	50.6	37.7	67.6	72.4	60.7
7/4/2016	10:48:00 PM	41.7	45.9	37.3	52.9	56.2	50.1	47.4	50.9	-	55.6	59.5	-	40.7	44.7	38.0	68.5	73.0	62.6
7/4/2016	10:49:00 PM	38.3	43.5	36.0	65.5	76.7	48.5	47.9	55.5	-	54.9	59.6	-	40.2	45.0	36.5	67.8	73.8	58.1
7/4/2016	10:50:00 PM	38.8	50.9	36.0	58.6	68.0	49.8	48.4	54.0	-	55.2	59.8	-	40.4	45.4	37.2	66.5	70.9	59.4
7/4/2016	10:51:00 PM	48.2	60.9	36.5	64.8	74.5	49.9	45.9	51.0	-	55.3	58.4	-	41.5	46.4	37.4	67.3	73.2	62.5
7/4/2016	10:52:00 PM	43.1	54.6	34.4	53.4	58.7	50.0	47.0	54.1	-	55.6	62.1	-	40.6	46.4	37.7	66.5	73.4	59.5
7/4/2016	10:53:00 PM	43.8	55.0	34.9	53.2	61.2	49.4	47.6	52.0	-	55.1	59.4	-	39.6	43.9	36.4	65.4	70.7	57.9
7/4/2016	10:54:00 PM	37.1	47.7	34.0	51.4	56.1	48.6	47.9	50.9	-	54.8	60.5	-	40.0	45.4	36.6	66.4	71.1	59.5
7/4/2016	10:55:00 PM	39.2	49.3	34.2	51.9	55.6	48.7	47.5	58.7	-	55.0	58.4	-	40.2	44.1	37.0	66.8	73.0	61.2
7/4/2016	10:56:00 PM	44.9	53.0	33.7	58.7	67.0	52.9	49.1	67.6	-	53.8	57.9	-	42.3	47.2	37.5	66.6	71.8	60.8
7/4/2016	10:57:00 PM	55.9	79.6	36.6	57.3	62.2	53.4	47.7	50.5	-	55.1	59.0	-	42.6	48.9	37.7	67.2	73.4	59.2
7/4/2016	10:58:00 PM	44.2	60.7	37.1	59.0	62.7	54.1	47.8	51.0	-	53.7	56.9	-	40.4	46.6	36.9	67.2	74.4	59.7
7/4/2016	10:59:00 PM	53.5	71.4	39.4	56.9	62.7	53.5	47.3	49.3	-	54.5	57.3	-	40.2	44.0	37.2	69.8	92.2	56.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	11:00:00 PM	54.5	75.6	37.4	55.6	59.7	50.7	49.1	67.6	-	55.7	61.4	-	40.0	53.6	36.6	66.3	71.7	57.6
7/4/2016	11:01:00 PM	57.0	76.7	35.8	58.7	67.5	50.8	47.1	53.1	-	54.8	56.7	-	40.5	46.0	37.0	66.3	75.8	60.1
7/4/2016	11:02:00 PM	59.3	80.8	39.4	52.1	56.3	49.2	46.9	54.8	-	67.0	88.8	-	39.4	45.7	36.0	66.2	78.3	58.9
7/4/2016	11:03:00 PM	51.6	65.7	38.5	51.3	53.4	49.6	47.8	51.1	-	54.9	63.5	-	40.1	44.9	36.5	66.7	74.6	58.9
7/4/2016	11:04:00 PM	62.7	78.4	37.5	50.4	52.4	48.5	49.6	65.2	-	57.0	75.4	-	39.2	45.0	36.3	67.6	73.1	60.8
7/4/2016	11:05:00 PM	63.3	81.9	40.7	49.6	56.5	47.7	49.1	54.5	-	55.9	66.5	-	39.1	45.2	36.3	67.3	73.1	59.9
7/4/2016	11:06:00 PM	54.8	69.7	42.4	50.5	59.0	47.8	48.1	53.9	-	55.6	60.9	-	39.4	46.5	36.5	66.6	73.2	60.8
7/4/2016	11:07:00 PM	62.2	76.1	38.1	51.1	53.6	49.0	48.0	50.8	-	54.6	56.9	-	39.2	44.8	36.3	67.6	73.0	58.6
7/4/2016	11:08:00 PM	58.7	72.7	38.7	51.1	53.2	49.2	47.2	55.1	-	53.4	55.8	-	39.4	42.7	36.1	67.3	73.3	59.7
7/4/2016	11:09:00 PM	54.8	65.8	35.4	62.2	71.7	50.0	62.1	81.7	-	55.1	58.6	-	39.8	49.5	36.3	65.9	71.2	59.5
7/4/2016	11:10:00 PM	54.1	64.4	36.2	55.5	67.3	48.7	48.0	51.3	-	55.3	58.9	-	38.7	46.5	35.7	66.2	71.4	60.1
7/4/2016	11:11:00 PM	52.3	64.6	36.3	49.8	53.1	47.2	47.9	52.8	-	56.6	77.2	-	38.2	42.6	35.1	66.2	72.6	59.3
7/4/2016	11:12:00 PM	49.2	64.4	39.1	50.1	56.4	47.3	48.1	50.7	-	55.1	58.9	-	38.3	46.7	35.8	66.0	69.7	61.3
7/4/2016	11:13:00 PM	49.1	60.1	39.8	48.3	53.3	46.2	48.0	54.1	-	55.3	59.7	-	38.2	44.5	35.5	66.5	70.7	59.4
7/4/2016	11:14:00 PM	48.8	60.6	36.1	47.9	49.7	46.0	48.5	52.4	-	56.1	62.2	-	38.9	43.7	36.3	67.3	71.9	61.0
7/4/2016	11:15:00 PM	48.7	59.1	36.8	47.6	50.9	44.7	48.7	53.9	-	55.3	68.4	-	38.0	43.0	35.4	67.2	72.2	63.0
7/4/2016	11:16:00 PM	43.3	54.3	34.9	47.4	50.0	45.2	50.1	57.5	-	54.6	59.4	-	37.5	41.0	35.1	65.6	69.8	58.7
7/4/2016	11:17:00 PM	51.5	66.6	37.0	47.8	55.1	44.4	49.2	53.0	-	60.7	71.5	-	37.6	41.7	35.0	66.5	71.0	60.4
7/4/2016	11:18:00 PM	59.5	78.5	41.4	47.2	50.7	45.0	47.6	51.0	-	55.0	59.0	-	37.3	43.2	34.5	65.9	71.3	55.7
7/4/2016	11:19:00 PM	55.5	77.7	39.3	46.0	48.6	44.3	48.2	59.2	-	54.2	60.7	-	38.3	42.9	34.4	66.0	71.6	59.5
7/4/2016	11:20:00 PM	50.5	66.3	40.5	48.1	51.0	44.6	48.9	59.0	-	54.1	57.1	-	38.4	44.7	35.6	66.9	80.5	60.8
7/4/2016	11:21:00 PM	51.3	59.6	39.2	50.8	55.7	48.3	50.1	54.4	-	54.5	58.6	-	38.0	46.1	35.1	65.8	71.5	59.3
7/4/2016	11:22:00 PM	43.5	58.0	36.2	57.0	63.2	52.7	49.1	52.3	-	53.1	56.6	-	38.0	41.7	35.3	66.6	71.6	61.2
7/4/2016	11:23:00 PM	48.5	67.9	38.1	53.6	56.3	51.3	46.8	49.3	-	53.9	56.4	-	38.0	42.6	35.1	66.1	70.7	59.4
7/4/2016	11:24:00 PM	49.0	65.5	35.5	51.2	53.9	48.0	46.5	50.4	-	55.0	58.6	-	37.4	42.6	34.8	65.7	68.2	61.2
7/4/2016	11:25:00 PM	45.8	58.5	35.4	50.4	52.8	48.5	47.8	53.6	-	55.7	58.1	-	37.3	42.8	34.6	67.1	73.8	61.5
7/4/2016	11:26:00 PM	50.0	65.3	40.0	49.2	51.0	46.8	48.0	51.7	-	53.9	56.8	-	37.9	40.9	35.1	67.2	72.7	60.0
7/4/2016	11:27:00 PM	52.3	65.6	36.1	48.6	50.3	47.0	47.1	51.5	-	55.1	61.6	-	37.9	44.1	35.3	67.3	72.0	60.7
7/4/2016	11:28:00 PM	54.0	67.0	34.6	47.8	49.5	46.0	47.4	50.2	-	54.3	59.5	-	37.6	43.6	34.9	66.4	71.0	62.3
7/4/2016	11:29:00 PM	64.0	77.8	35.8	48.6	50.8	46.5	47.4	49.5	-	54.1	59.4	-	37.2	41.9	34.6	66.4	69.9	62.4
7/4/2016	11:30:00 PM	58.1	71.6	54.9	48.6	53.0	46.3	48.1	50.8	-	54.6	57.4	-	37.7	45.3	35.1	76.3	101.2	62.3
7/4/2016	11:31:00 PM	57.1	74.7	38.6	52.8	63.6	46.4	47.0	49.3	-	53.5	58.2	-	37.3	42.0	35.3	65.8	69.4	60.8
7/4/2016	11:32:00 PM	36.9	49.7	32.1	51.6	60.5	45.9	47.0	52.1	-	53.2	57.1	-	37.8	47.9	34.9	67.2	71.9	62.1
7/4/2016	11:33:00 PM	37.8	47.7	31.9	54.9	67.9	49.5	48.5	53.3	-	55.3	58.7	-	37.4	41.8	34.6	66.6	70.9	61.8
7/4/2016	11:34:00 PM	46.4	53.6	35.6	52.9	64.2	47.7	48.0	51.4	-	54.2	57.0	-	37.2	44.1	34.9	66.0	70.6	61.5
7/4/2016	11:35:00 PM	41.9	51.5	35.8	50.7	60.4	44.8	49.4	55.6	-	55.4	64.5	-	37.3	41.0	35.3	66.7	72.3	62.2
7/4/2016	11:36:00 PM	42.2	56.9	37.2	48.8	55.2	45.1	48.5	51.3	-	54.4	58.5	-	37.0	45.1	34.6	66.5	71.9	61.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/4/2016	11:37:00 PM	55.1	77.8	37.3	53.3	65.0	45.3	48.4	50.2	-	54.7	58.3	-	37.7	43.3	34.5	66.3	70.1	60.6
7/4/2016	11:38:00 PM	55.1	77.2	35.6	47.5	49.6	45.7	49.1	51.8	-	54.0	57.0	-	37.5	41.0	35.3	66.9	73.2	61.9
7/4/2016	11:39:00 PM	37.6	46.9	33.4	48.0	53.2	46.0	47.8	49.5	-	55.0	61.1	-	37.9	41.2	35.6	65.9	72.8	60.3
7/4/2016	11:40:00 PM	39.7	52.9	33.0	48.2	51.8	45.1	48.4	51.4	-	53.9	56.7	-	37.3	41.0	34.9	65.7	69.5	60.1
7/4/2016	11:41:00 PM	38.1	48.5	34.9	55.7	65.8	46.1	47.3	50.0	-	54.2	63.8	-	36.8	39.7	34.3	66.4	71.1	60.7
7/4/2016	11:42:00 PM	37.5	49.4	32.1	52.0	63.1	44.8	48.7	51.9	-	56.7	67.6	-	37.0	42.4	34.6	65.6	69.5	60.3
7/4/2016	11:43:00 PM	36.1	48.1	30.1	51.4	59.3	46.0	48.6	52.1	-	53.2	59.4	-	37.2	42.8	34.8	66.8	70.9	62.2
7/4/2016	11:44:00 PM	35.3	44.1	30.6	47.3	49.7	45.5	48.7	53.8	-	53.0	56.1	-	36.6	39.6	34.2	66.1	69.7	60.5
7/4/2016	11:45:00 PM	38.7	45.7	32.5	49.6	58.4	45.3	47.4	49.4	-	53.6	59.1	-	37.1	41.5	34.5	66.8	73.1	61.9
7/4/2016	11:46:00 PM	40.6	47.7	36.0	55.7	63.9	46.0	46.7	49.0	-	53.3	56.0	-	37.0	41.0	34.5	66.4	70.6	60.9
7/4/2016	11:47:00 PM	40.3	45.9	36.1	46.8	49.4	44.5	49.7	55.7	-	53.0	58.6	-	36.6	42.4	34.3	66.4	72.0	60.1
7/4/2016	11:48:00 PM	47.6	59.6	31.1	53.7	63.1	44.7	46.9	51.0	-	53.0	55.9	-	36.8	44.9	34.2	66.4	71.7	60.5
7/4/2016	11:49:00 PM	38.2	55.3	29.6	45.8	48.1	44.2	48.4	53.2	-	53.3	57.3	-	36.3	41.1	34.2	66.9	71.8	63.2
7/4/2016	11:50:00 PM	33.8	43.8	29.5	48.2	53.3	44.8	49.0	54.5	-	53.1	56.1	-	36.4	40.1	34.6	66.5	72.0	61.2
7/4/2016	11:51:00 PM	42.7	51.9	32.2	51.2	56.3	47.2	52.8	58.3	-	53.3	56.2	-	36.5	41.9	34.4	66.9	70.9	63.6
7/4/2016	11:52:00 PM	41.3	58.6	34.2	47.9	50.9	45.8	47.7	51.1	-	53.4	57.9	-	36.6	42.6	34.6	66.5	70.7	63.3
7/4/2016	11:53:00 PM	40.5	53.0	34.5	47.3	49.6	45.1	47.4	52.1	-	53.6	57.0	-	36.6	41.3	34.4	66.3	72.7	60.5
7/4/2016	11:54:00 PM	50.5	58.9	40.8	50.3	55.4	46.8	47.6	50.7	-	54.1	58.8	-	36.4	39.7	34.4	66.4	70.6	59.9
7/4/2016	11:55:00 PM	49.0	64.7	33.7	50.0	55.4	46.6	47.7	49.8	-	52.3	58.3	-	36.0	41.0	33.7	66.1	71.2	60.9
7/4/2016	11:56:00 PM	44.5	63.6	32.9	50.2	52.4	46.9	45.4	52.9	-	52.4	55.1	-	36.6	40.4	34.2	66.5	71.3	61.0
7/4/2016	11:57:00 PM	42.8	62.8	31.6	47.3	49.2	45.4	46.0	48.7	-	52.5	55.8	-	36.7	42.1	34.8	66.4	70.9	61.2
7/4/2016	11:58:00 PM	40.7	56.1	31.1	47.1	49.0	45.6	47.6	52.4	-	52.7	55.7	-	37.4	43.4	35.1	66.7	72.5	60.9
7/4/2016	11:59:00 PM	53.5	72.5	30.4	48.2	64.5	44.8	45.7	50.1	-	53.8	56.4	-	37.2	40.7	35.1	66.6	71.2	61.5
7/5/2016	12:00:00 AM	46.6	59.4	30.6	47.4	49.0	45.7	44.9	48.9	-	52.9	55.9	-	36.5	39.9	34.0	67.4	72.8	62.3
7/5/2016	12:01:00 AM	32.5	42.4	28.9	47.8	49.8	45.7	45.3	47.6	-	52.3	54.4	-	36.8	40.2	34.9	66.5	72.8	60.8
7/5/2016	12:02:00 AM	33.9	43.6	29.8	46.1	47.9	44.5	46.6	51.1	-	53.0	56.8	-	37.0	45.9	34.5	66.7	71.0	63.4
7/5/2016	12:03:00 AM	38.5	50.6	31.3	46.7	50.1	44.4	46.8	49.8	-	53.8	61.3	-	36.6	39.7	34.6	67.0	71.3	62.3
7/5/2016	12:04:00 AM	40.4	49.6	37.3	47.1	49.8	44.9	46.1	49.8	-	52.0	54.9	-	37.0	39.6	34.9	66.7	71.7	59.7
7/5/2016	12:05:00 AM	37.4	45.7	32.7	47.5	50.3	45.1	47.7	51.7	-	52.5	56.1	-	38.3	43.0	35.1	66.1	71.7	59.8
7/5/2016	12:06:00 AM	40.7	48.6	34.9	46.7	50.1	44.0	46.0	49.0	-	53.1	57.1	-	37.2	41.5	34.8	65.2	70.2	61.2
7/5/2016	12:07:00 AM	36.9	41.0	34.6	46.5	49.1	44.6	46.1	50.2	-	53.0	57.6	-	37.1	39.6	34.5	66.5	71.8	60.8
7/5/2016	12:08:00 AM	41.8	57.0	36.0	46.4	49.8	44.4	45.4	47.4	-	52.4	56.3	-	35.9	39.1	33.7	66.2	70.2	60.7
7/5/2016	12:09:00 AM	51.0	62.2	33.3	47.7	50.0	45.6	45.9	47.9	-	53.3	56.8	-	36.5	42.1	34.3	65.8	70.8	61.6
7/5/2016	12:10:00 AM	35.2	39.0	33.0	49.2	62.1	45.1	44.9	47.7	-	52.9	58.7	-	36.5	42.3	34.6	66.9	71.2	62.1
7/5/2016	12:11:00 AM	37.2	43.2	33.5	46.3	52.0	43.3	46.4	49.4	-	51.8	54.8	-	36.5	39.6	34.0	66.6	72.1	62.8
7/5/2016	12:12:00 AM	34.3	38.7	31.3	48.8	55.5	45.8	46.8	50.5	-	51.8	57.5	-	35.8	42.0	33.8	67.0	72.1	61.8
7/5/2016	12:13:00 AM	31.9	37.7	28.6	50.0	54.1	46.3	48.2	52.7	-	51.7	55.1	-	36.5	42.2	33.9	66.4	71.8	61.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	12:14:00 AM	31.6	37.8	28.4	52.8	64.8	45.7	47.5	50.3	-	51.4	54.2	-	36.3	39.8	34.3	66.4	71.7	61.0
7/5/2016	12:15:00 AM	35.0	41.0	31.1	54.0	62.4	45.4	46.4	49.3	-	52.7	56.9	-	37.5	46.3	33.8	66.2	71.5	62.1
7/5/2016	12:16:00 AM	35.3	43.7	30.6	46.9	54.8	44.6	45.6	48.0	-	53.7	58.0	-	37.4	48.7	33.9	66.2	69.8	61.9
7/5/2016	12:17:00 AM	32.7	41.6	30.4	48.2	58.3	43.4	49.5	56.6	-	54.3	62.0	-	36.7	42.8	34.2	65.7	70.4	60.5
7/5/2016	12:18:00 AM	36.5	39.4	31.3	49.0	62.2	44.9	46.7	50.5	-	53.0	55.7	-	36.6	41.5	34.5	65.9	70.1	61.0
7/5/2016	12:19:00 AM	37.2	41.8	34.9	47.5	49.3	45.4	46.5	49.8	-	53.7	56.5	-	37.2	44.6	34.4	66.2	69.7	62.2
7/5/2016	12:20:00 AM	38.3	48.6	36.1	45.3	47.7	43.4	46.9	53.2	-	53.6	60.2	-	36.9	42.9	34.9	66.9	71.8	62.7
7/5/2016	12:21:00 AM	37.2	46.4	32.3	45.7	49.3	43.2	45.6	49.6	-	53.0	56.5	-	37.7	42.3	35.4	65.8	68.8	62.1
7/5/2016	12:22:00 AM	34.1	41.7	31.1	45.9	50.0	43.4	43.5	45.2	-	53.3	56.8	-	37.0	41.6	35.0	66.2	70.7	60.9
7/5/2016	12:23:00 AM	33.9	40.8	30.6	47.8	50.3	46.0	43.0	45.2	-	53.5	59.1	-	38.1	52.6	34.9	66.2	70.0	62.8
7/5/2016	12:24:00 AM	45.2	67.2	32.1	47.4	49.8	45.6	43.7	46.0	-	52.7	57.9	-	38.0	41.4	35.0	65.8	69.5	61.8
7/5/2016	12:25:00 AM	47.5	63.4	31.1	45.8	52.0	43.0	43.7	46.2	-	54.1	60.3	-	37.6	44.9	35.0	65.7	70.2	60.2
7/5/2016	12:26:00 AM	32.1	38.6	29.6	45.3	48.1	43.0	43.8	49.7	-	53.7	59.6	-	37.2	40.5	35.4	66.1	68.9	60.4
7/5/2016	12:27:00 AM	31.6	38.2	28.4	46.2	48.5	44.2	44.2	46.6	-	52.9	55.5	-	36.5	44.1	34.5	65.7	69.4	62.1
7/5/2016	12:28:00 AM	31.9	38.1	29.1	46.3	49.3	43.5	45.0	47.9	-	52.5	57.5	-	36.9	46.4	34.8	65.8	71.4	61.1
7/5/2016	12:29:00 AM	33.2	38.2	30.1	45.9	48.6	43.6	45.9	48.3	-	51.5	54.4	-	36.8	40.0	34.4	66.0	70.0	61.8
7/5/2016	12:30:00 AM	31.7	38.2	27.6	46.2	49.2	42.7	43.1	45.4	-	50.9	55.1	-	36.1	40.5	33.5	65.9	69.0	62.5
7/5/2016	12:31:00 AM	32.4	39.1	29.1	45.8	49.1	43.8	47.9	55.4	-	52.1	57.0	-	36.8	40.5	34.3	66.0	69.2	62.0
7/5/2016	12:32:00 AM	34.0	52.3	30.3	44.7	50.1	42.0	46.4	54.4	-	49.4	52.4	-	37.9	42.7	35.3	65.8	69.0	62.9
7/5/2016	12:33:00 AM	44.2	58.2	34.6	47.1	60.8	41.9	44.3	48.6	-	51.1	59.9	-	36.9	40.2	34.9	66.0	71.1	62.4
7/5/2016	12:34:00 AM	41.9	49.0	35.6	46.1	48.4	42.8	44.2	46.7	-	52.5	58.2	-	37.1	44.1	34.5	66.3	70.2	62.7
7/5/2016	12:35:00 AM	39.1	50.8	34.0	46.4	49.1	43.8	43.8	46.0	-	50.2	55.2	-	36.9	40.7	34.6	65.6	70.9	60.7
7/5/2016	12:36:00 AM	37.5	41.4	34.6	44.4	47.3	42.3	43.8	48.0	-	51.9	59.1	-	37.1	42.0	34.6	66.0	69.8	61.5
7/5/2016	12:37:00 AM	35.1	39.9	32.2	45.7	48.6	43.3	42.9	46.6	-	51.3	60.5	-	37.3	40.6	34.6	65.9	70.1	62.4
7/5/2016	12:38:00 AM	34.7	45.8	29.8	45.3	49.0	42.9	42.7	44.7	-	52.4	60.8	-	36.5	41.1	34.0	66.2	70.0	61.7
7/5/2016	12:39:00 AM	35.9	43.6	31.1	45.1	48.6	42.3	42.3	45.8	-	50.4	56.6	-	36.5	40.1	34.2	64.9	69.8	60.9
7/5/2016	12:40:00 AM	37.3	45.4	34.3	46.2	48.5	43.7	44.3	46.4	-	50.3	54.9	-	35.9	39.2	33.3	65.3	69.3	61.1
7/5/2016	12:41:00 AM	71.8	80.7	34.8	46.7	50.3	44.7	44.4	47.6	-	50.4	55.8	-	36.3	40.7	33.7	65.3	68.8	61.5
7/5/2016	12:42:00 AM	67.9	77.9	33.3	46.4	50.7	44.5	43.9	47.0	-	51.5	55.5	-	36.4	39.0	34.0	66.6	71.5	62.0
7/5/2016	12:43:00 AM	48.1	60.3	31.5	46.4	50.2	44.2	44.9	50.9	-	50.9	55.2	-	36.4	39.4	34.2	64.9	69.6	60.4
7/5/2016	12:44:00 AM	45.1	57.8	29.8	45.9	52.1	43.4	43.2	48.4	-	49.4	53.5	-	37.0	41.6	34.8	66.0	69.7	61.5
7/5/2016	12:45:00 AM	41.0	54.6	33.5	44.9	47.7	42.8	43.2	46.4	-	50.1	53.7	-	36.8	41.5	34.8	66.1	71.4	61.9
7/5/2016	12:46:00 AM	37.0	44.7	34.9	44.4	48.2	41.3	42.4	45.2	-	48.7	52.3	-	37.5	49.9	34.9	65.2	70.7	61.2
7/5/2016	12:47:00 AM	37.2	47.7	35.3	45.5	48.5	43.4	42.9	47.3	-	53.9	59.5	-	37.2	42.4	34.8	64.6	67.3	60.9
7/5/2016	12:48:00 AM	36.2	39.2	31.3	44.5	46.8	42.0	43.9	47.8	-	52.3	56.9	-	37.3	47.1	35.0	65.4	69.7	61.5
7/5/2016	12:49:00 AM	32.2	44.4	29.1	43.8	46.8	41.6	44.0	46.7	-	56.1	65.3	-	36.6	41.1	34.4	65.5	69.6	61.6
7/5/2016	12:50:00 AM	32.4	38.5	30.4	45.4	51.1	43.1	42.7	44.9	-	50.6	54.0	-	36.7	41.1	34.5	66.6	74.1	62.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	12:51:00 AM	32.7	44.4	28.9	45.3	50.2	42.9	41.8	43.7	-	51.7	57.2	-	37.1	40.7	35.1	66.2	71.2	61.7
7/5/2016	12:52:00 AM	32.3	42.1	29.5	45.0	48.5	41.6	41.7	44.1	-	49.6	53.7	-	37.3	43.8	35.4	65.6	70.8	62.4
7/5/2016	12:53:00 AM	35.4	45.2	31.1	45.0	47.9	42.9	42.5	44.9	-	50.9	54.3	-	37.4	40.7	35.0	65.7	70.8	62.1
7/5/2016	12:54:00 AM	34.6	44.0	31.5	44.1	49.2	41.2	43.0	45.9	-	51.2	59.2	-	37.8	42.0	35.6	65.2	71.2	60.2
7/5/2016	12:55:00 AM	33.2	43.4	31.3	44.3	47.7	42.0	44.5	48.2	-	50.9	55.0	-	38.7	43.2	36.0	65.6	68.9	63.4
7/5/2016	12:56:00 AM	33.1	38.4	30.9	46.1	48.9	43.8	44.8	51.3	-	51.6	55.8	-	37.9	41.7	35.5	65.3	71.0	61.0
7/5/2016	12:57:00 AM	34.0	38.6	31.6	45.8	48.2	43.6	43.6	48.1	-	50.1	55.6	-	37.8	42.2	35.4	65.9	69.2	62.8
7/5/2016	12:58:00 AM	34.4	39.2	32.5	46.3	48.9	44.1	43.5	48.0	-	51.7	56.6	-	37.9	40.9	35.5	66.0	70.9	61.7
7/5/2016	12:59:00 AM	35.6	44.0	33.0	47.4	49.4	44.7	41.6	45.3	-	49.6	58.4	-	38.2	41.4	35.4	65.6	69.6	61.3
7/5/2016	1:00:00 AM	34.0	38.3	32.1	46.1	48.2	43.9	44.1	49.7	-	51.2	55.9	-	38.5	42.2	36.3	64.9	67.1	62.2
7/5/2016	1:01:00 AM	35.1	40.5	32.1	47.1	55.5	43.7	43.9	50.5	-	49.4	55.4	-	37.9	40.8	35.3	65.4	69.1	61.9
7/5/2016	1:02:00 AM	32.4	38.1	29.8	49.3	62.3	42.9	42.2	43.6	-	48.1	52.1	-	38.0	41.2	36.0	65.5	69.6	62.3
7/5/2016	1:03:00 AM	31.8	38.5	28.6	45.5	50.4	43.1	42.5	46.3	-	48.8	52.3	-	37.9	41.8	35.8	65.2	69.3	62.8
7/5/2016	1:04:00 AM	32.8	38.0	30.6	45.4	48.2	43.4	42.0	44.8	-	51.1	58.3	-	37.8	45.1	35.1	65.6	70.5	60.7
7/5/2016	1:05:00 AM	32.2	38.1	29.3	45.0	48.5	43.3	42.5	44.5	-	49.9	56.0	-	37.6	41.1	35.0	64.8	69.1	60.9
7/5/2016	1:06:00 AM	32.6	37.3	30.9	44.9	53.2	42.9	44.1	48.8	-	51.9	59.9	-	37.8	44.3	35.8	65.0	69.2	61.7
7/5/2016	1:07:00 AM	40.4	48.5	30.4	45.9	48.4	44.0	41.7	43.9	-	49.8	54.5	-	37.8	41.2	34.6	65.4	68.7	62.7
7/5/2016	1:08:00 AM	34.7	42.1	31.2	45.5	48.0	43.7	43.3	53.4	-	50.2	54.6	-	37.9	42.4	35.5	65.1	71.7	61.9
7/5/2016	1:09:00 AM	33.3	44.1	30.9	45.2	49.4	43.5	42.2	48.5	-	48.7	54.8	-	37.8	40.9	35.1	66.2	70.9	63.6
7/5/2016	1:10:00 AM	33.5	47.0	31.2	45.2	46.8	43.5	41.4	43.4	-	48.5	56.1	-	38.3	43.6	35.4	65.8	70.5	60.3
7/5/2016	1:11:00 AM	34.5	41.5	30.4	47.2	52.0	44.4	44.1	52.2	-	51.2	55.2	-	37.9	43.6	35.6	65.5	70.3	62.6
7/5/2016	1:12:00 AM	34.8	42.3	30.3	46.7	50.7	44.4	41.6	44.0	-	50.2	55.1	-	37.9	42.1	35.8	65.4	69.7	62.3
7/5/2016	1:13:00 AM	33.3	41.5	30.1	46.1	51.0	43.5	42.1	44.9	-	49.8	54.0	-	38.2	44.5	36.0	65.1	69.6	62.2
7/5/2016	1:14:00 AM	38.1	52.3	31.9	46.2	48.3	43.9	44.5	50.4	-	51.1	60.9	-	38.3	42.8	35.8	65.6	70.4	62.2
7/5/2016	1:15:00 AM	35.9	38.9	33.9	45.1	48.6	41.3	42.1	45.0	-	49.9	56.9	-	37.7	43.6	35.1	65.4	73.6	61.3
7/5/2016	1:16:00 AM	39.7	57.8	34.9	45.2	48.5	41.9	42.3	44.5	-	48.8	52.6	-	37.9	42.6	35.4	65.7	69.4	61.6
7/5/2016	1:17:00 AM	36.0	42.2	32.2	45.4	48.4	42.8	42.5	46.6	-	50.3	57.1	-	38.8	48.0	36.4	64.5	69.5	60.5
7/5/2016	1:18:00 AM	34.5	41.4	29.1	45.4	49.8	42.8	43.5	46.9	-	49.6	54.2	-	38.2	45.2	35.7	65.3	68.7	62.8
7/5/2016	1:19:00 AM	34.5	43.1	29.3	45.4	49.5	42.7	43.4	48.6	-	51.0	60.4	-	38.4	43.7	35.7	64.9	69.9	62.0
7/5/2016	1:20:00 AM	33.9	43.9	29.5	45.0	48.5	42.6	43.7	47.6	-	51.0	55.8	-	38.6	43.9	35.7	65.0	68.2	62.0
7/5/2016	1:21:00 AM	33.6	43.1	28.9	44.4	47.2	42.2	45.6	54.9	-	48.4	54.1	-	39.9	42.7	36.8	65.6	69.6	62.8
7/5/2016	1:22:00 AM	32.9	37.3	29.3	45.1	49.0	43.1	41.7	43.8	-	48.6	58.2	-	39.3	44.9	36.2	65.4	69.4	63.1
7/5/2016	1:23:00 AM	35.2	53.2	29.5	44.3	46.9	42.0	43.0	45.5	-	48.7	53.1	-	38.7	42.1	36.2	64.6	68.1	62.2
7/5/2016	1:24:00 AM	32.5	41.7	29.5	43.5	46.5	41.2	46.3	54.3	-	51.3	60.6	-	38.3	41.7	35.8	65.5	68.7	61.8
7/5/2016	1:25:00 AM	34.1	38.2	30.9	46.0	49.3	42.3	43.8	47.5	-	49.6	54.6	-	38.4	42.1	35.6	65.5	69.4	62.5
7/5/2016	1:26:00 AM	35.3	50.7	30.8	45.0	47.8	42.4	44.9	50.6	-	48.3	52.6	-	39.3	44.5	36.2	64.3	68.0	62.3
7/5/2016	1:27:00 AM	33.9	39.2	31.2	45.0	47.1	42.4	45.8	50.6	-	48.5	54.4	-	39.0	41.9	36.2	64.9	68.1	61.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	1:28:00 AM	33.3	40.8	30.8	44.4	48.2	42.4	44.7	48.5	-	50.1	54.9	-	38.5	44.3	36.1	65.2	69.3	62.5
7/5/2016	1:29:00 AM	34.6	39.0	31.8	46.2	49.0	43.2	43.2	45.6	-	50.6	54.3	-	38.6	42.2	36.0	64.5	68.4	59.8
7/5/2016	1:30:00 AM	44.1	55.7	32.9	46.3	48.4	44.2	42.8	45.9	-	49.1	56.9	-	39.1	42.8	35.7	65.1	68.7	62.9
7/5/2016	1:31:00 AM	35.4	45.2	33.4	44.8	47.8	42.8	42.3	44.9	-	51.4	58.3	-	39.5	43.1	35.8	64.9	67.4	62.2
7/5/2016	1:32:00 AM	36.2	39.8	33.7	52.1	59.6	42.7	43.2	46.1	-	48.9	55.7	-	38.8	41.9	35.8	65.1	68.4	62.1
7/5/2016	1:33:00 AM	35.3	40.7	32.7	57.7	64.4	42.4	45.5	51.5	-	51.0	59.4	-	38.6	41.7	36.3	64.8	68.9	61.5
7/5/2016	1:34:00 AM	34.5	39.2	31.3	44.5	47.0	42.3	43.8	46.2	-	50.3	56.5	-	39.6	44.3	37.0	64.0	68.6	60.8
7/5/2016	1:35:00 AM	33.0	38.6	30.6	44.9	49.1	43.0	44.1	47.3	-	49.3	54.2	-	40.0	42.4	37.0	64.9	67.6	61.3
7/5/2016	1:36:00 AM	33.0	37.7	30.9	47.5	54.8	43.7	44.2	46.8	-	47.7	54.4	-	38.9	43.5	36.2	64.6	68.2	61.7
7/5/2016	1:37:00 AM	35.7	43.0	30.8	46.9	52.4	44.6	46.0	49.4	-	48.4	54.7	-	37.9	41.7	35.5	63.9	66.8	61.2
7/5/2016	1:38:00 AM	38.5	42.1	35.0	45.7	48.9	43.2	43.5	46.2	-	49.0	51.8	-	40.9	44.7	36.5	64.7	67.8	62.4
7/5/2016	1:39:00 AM	35.6	39.5	33.1	43.7	46.9	41.5	42.2	44.6	-	48.7	54.4	-	39.9	43.7	37.3	64.5	66.8	61.9
7/5/2016	1:40:00 AM	33.3	38.6	31.3	45.4	48.9	43.0	42.0	43.9	-	47.1	51.5	-	39.1	42.8	35.5	64.9	68.7	62.8
7/5/2016	1:41:00 AM	37.2	40.5	34.2	44.7	48.5	42.6	43.5	47.0	-	48.3	53.2	-	38.5	43.5	35.8	63.9	68.6	60.6
7/5/2016	1:42:00 AM	38.6	40.6	34.9	45.7	50.3	42.6	46.4	54.3	-	49.3	57.6	-	38.2	41.7	35.8	64.0	66.8	60.8
7/5/2016	1:43:00 AM	36.9	40.7	34.5	45.5	50.0	42.6	46.7	51.9	-	51.2	57.0	-	39.4	42.9	36.6	64.6	67.2	61.8
7/5/2016	1:44:00 AM	38.8	41.0	37.3	59.7	67.0	46.5	42.4	44.6	-	50.7	56.6	-	38.8	42.4	36.3	65.6	69.4	62.4
7/5/2016	1:45:00 AM	39.2	44.3	37.2	50.5	58.9	42.4	42.9	45.2	-	48.6	53.5	-	39.1	42.3	36.6	64.3	67.7	62.3
7/5/2016	1:46:00 AM	41.9	58.3	37.1	45.8	49.3	43.5	43.4	46.7	-	52.0	56.5	-	38.8	43.0	35.7	64.4	68.2	62.0
7/5/2016	1:47:00 AM	40.1	52.7	35.8	44.6	48.4	42.2	42.4	45.8	-	49.8	54.8	-	37.9	45.6	35.7	64.2	67.5	61.9
7/5/2016	1:48:00 AM	42.5	55.5	35.8	44.7	49.3	42.7	43.1	45.7	-	48.3	53.2	-	37.7	41.1	35.0	64.7	68.5	61.7
7/5/2016	1:49:00 AM	38.4	49.7	36.0	44.6	46.8	42.9	43.2	52.1	-	49.7	56.2	-	39.0	44.1	35.4	64.3	67.3	61.2
7/5/2016	1:50:00 AM	37.9	47.3	34.9	44.8	50.9	42.6	41.4	44.0	-	48.4	60.8	-	38.2	41.5	35.4	64.3	67.5	62.1
7/5/2016	1:51:00 AM	41.4	46.2	36.5	45.4	48.1	42.9	42.6	45.8	-	47.1	51.1	-	37.9	41.2	34.5	63.7	67.1	61.3
7/5/2016	1:52:00 AM	38.4	43.6	35.5	48.8	57.8	43.6	42.2	46.5	-	47.7	53.6	-	38.0	46.6	35.5	64.7	67.3	62.4
7/5/2016	1:53:00 AM	37.7	43.8	34.3	57.8	65.9	45.4	44.2	50.7	-	47.2	54.3	-	37.7	42.0	34.2	65.2	68.6	62.3
7/5/2016	1:54:00 AM	38.1	41.7	34.0	45.2	49.2	42.1	46.6	59.1	-	46.3	49.6	-	37.3	41.5	34.9	64.6	68.0	62.2
7/5/2016	1:55:00 AM	38.1	44.2	33.5	46.2	51.0	43.9	42.1	46.7	-	47.2	52.7	-	37.8	41.8	34.3	64.7	69.2	61.4
7/5/2016	1:56:00 AM	39.0	55.4	33.5	46.6	50.1	44.1	43.7	52.1	-	43.9	49.8	-	38.6	42.4	35.5	64.8	69.5	62.0
7/5/2016	1:57:00 AM	36.5	42.1	32.1	47.2	49.4	44.8	43.6	52.2	-	45.0	47.7	-	38.3	41.5	35.1	63.3	66.7	61.4
7/5/2016	1:58:00 AM	35.9	41.5	31.6	58.0	66.0	46.2	41.8	46.2	-	44.7	48.8	-	38.5	42.4	35.6	64.5	69.1	61.2
7/5/2016	1:59:00 AM	39.5	49.7	32.3	48.7	56.6	44.1	41.9	44.3	-	44.2	51.3	-	37.5	41.2	34.9	64.8	68.7	61.6
7/5/2016	2:00:00 AM	40.1	51.6	33.0	44.5	48.5	42.1	41.2	43.8	-	43.9	47.7	-	37.8	42.6	35.0	64.2	68.7	60.9
7/5/2016	2:01:00 AM	38.7	48.3	32.6	45.1	47.5	42.2	41.3	44.7	-	44.5	48.0	-	39.4	45.3	35.0	64.1	67.0	61.2
7/5/2016	2:02:00 AM	33.9	43.4	31.6	45.2	48.9	42.3	42.6	45.6	-	44.3	50.9	-	38.0	41.8	35.1	63.5	66.0	61.3
7/5/2016	2:03:00 AM	37.5	46.4	32.1	46.2	50.6	44.4	45.2	52.9	-	45.8	53.6	-	37.2	42.8	34.8	63.3	66.1	61.4
7/5/2016	2:04:00 AM	36.0	41.1	31.1	48.5	63.8	44.1	43.6	47.1	-	46.2	52.5	-	37.7	42.4	35.1	63.8	67.2	61.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	2:05:00 AM	33.7	38.6	31.5	45.6	49.3	43.0	44.2	47.3	-	42.7	44.4	-	37.3	41.9	33.8	63.8	67.4	61.4
7/5/2016	2:06:00 AM	36.6	39.3	31.5	45.7	49.4	42.7	42.6	45.5	-	43.8	53.9	-	38.0	43.2	34.0	64.0	65.9	62.3
7/5/2016	2:07:00 AM	36.6	40.1	31.8	45.2	48.8	42.1	42.1	44.0	-	43.2	53.5	-	38.3	41.9	35.3	64.0	65.9	62.3
7/5/2016	2:08:00 AM	33.7	39.0	31.3	44.1	46.3	42.1	43.5	46.0	-	42.2	49.0	-	37.2	41.2	34.6	63.4	65.5	61.7
7/5/2016	2:09:00 AM	33.3	36.1	31.2	44.9	49.5	42.4	42.8	45.8	-	41.7	47.4	-	36.8	43.1	34.2	63.5	65.4	61.4
7/5/2016	2:10:00 AM	33.3	40.5	31.1	45.5	49.3	43.0	41.1	42.6	-	43.0	48.4	-	37.5	40.6	34.8	63.8	67.5	60.6
7/5/2016	2:11:00 AM	37.5	43.4	31.8	45.8	48.9	43.5	41.0	43.0	-	42.8	49.3	-	36.7	40.8	34.3	63.4	67.7	61.3
7/5/2016	2:12:00 AM	34.1	40.5	31.5	44.5	47.1	41.6	41.5	46.7	-	44.6	49.1	-	36.5	40.7	34.2	63.0	65.5	60.8
7/5/2016	2:13:00 AM	34.3	42.0	30.1	45.6	49.0	43.7	43.7	48.1	-	43.5	47.5	-	37.4	44.3	34.2	63.1	66.3	60.6
7/5/2016	2:14:00 AM	37.8	42.2	33.1	45.5	48.1	43.8	42.9	46.0	-	44.3	54.0	-	38.7	49.8	34.4	63.0	65.1	61.2
7/5/2016	2:15:00 AM	36.1	40.7	34.3	45.8	48.1	43.8	42.5	44.6	-	46.9	54.1	-	38.3	41.4	35.5	63.7	66.2	61.0
7/5/2016	2:16:00 AM	36.4	38.7	34.6	46.0	48.3	44.0	41.2	44.9	-	45.3	50.7	-	37.1	40.2	33.7	63.9	67.0	61.7
7/5/2016	2:17:00 AM	35.1	38.1	30.6	44.9	48.1	42.0	40.9	43.8	-	44.8	48.8	-	37.4	40.9	35.0	63.6	66.7	61.4
7/5/2016	2:18:00 AM	35.6	39.2	29.5	45.7	48.5	43.0	41.0	43.4	-	44.9	50.7	-	38.2	42.8	34.5	63.0	66.6	60.8
7/5/2016	2:19:00 AM	36.2	39.5	30.3	46.1	49.0	43.7	41.5	45.0	-	42.9	46.1	-	37.1	45.8	34.3	62.9	65.3	60.7
7/5/2016	2:20:00 AM	31.3	36.2	29.1	46.1	48.7	44.3	43.2	47.1	-	41.9	50.1	-	38.0	44.1	34.5	63.2	65.5	60.8
7/5/2016	2:21:00 AM	31.8	37.1	29.5	45.2	46.9	43.1	41.9	44.1	-	42.0	44.8	-	38.3	44.2	35.3	62.8	65.5	60.9
7/5/2016	2:22:00 AM	31.5	36.8	28.7	45.9	47.7	44.0	43.6	47.7	-	43.1	46.5	-	39.3	44.3	35.4	62.4	64.5	60.7
7/5/2016	2:23:00 AM	31.7	36.5	29.5	46.6	50.2	44.2	45.5	48.7	-	42.9	47.0	-	40.0	43.1	36.5	62.9	65.6	60.8
7/5/2016	2:24:00 AM	31.3	35.5	29.1	45.9	48.4	43.2	44.4	49.1	-	44.8	49.1	-	37.9	44.3	34.6	64.2	67.1	61.3
7/5/2016	2:25:00 AM	31.2	36.6	27.8	46.2	48.6	43.0	44.1	49.1	-	45.6	50.2	-	38.0	43.5	35.3	62.9	65.7	60.3
7/5/2016	2:26:00 AM	31.9	36.1	30.0	45.7	48.2	43.7	44.1	46.1	-	45.9	50.8	-	38.2	47.8	34.9	61.7	63.8	59.7
7/5/2016	2:27:00 AM	32.3	37.4	30.0	45.1	48.9	42.9	47.1	54.6	-	45.5	48.4	-	38.0	42.6	35.1	62.6	64.8	60.3
7/5/2016	2:28:00 AM	33.1	37.4	31.2	46.2	49.6	43.5	45.1	53.5	-	48.6	52.9	-	38.2	42.8	35.5	63.1	65.2	61.2
7/5/2016	2:29:00 AM	34.8	50.2	30.6	45.9	49.7	44.3	44.2	49.6	-	46.0	50.0	-	39.7	44.4	36.6	63.1	65.7	60.6
7/5/2016	2:30:00 AM	36.1	41.3	31.6	45.9	53.8	43.5	46.0	53.2	-	65.9	80.3	-	39.2	43.9	36.0	62.4	64.7	60.4
7/5/2016	2:31:00 AM	33.4	38.1	30.3	44.8	46.8	42.6	43.7	50.6	-	49.4	57.8	-	37.1	43.6	34.9	63.2	65.3	61.3
7/5/2016	2:32:00 AM	33.3	37.7	31.1	44.9	49.1	42.6	44.6	48.5	-	47.5	52.8	-	40.5	54.0	34.4	62.7	65.2	60.5
7/5/2016	2:33:00 AM	33.8	39.5	31.3	44.9	50.2	41.8	43.6	45.3	-	53.2	66.9	-	38.9	43.0	36.1	62.9	64.8	60.3
7/5/2016	2:34:00 AM	34.4	38.2	32.1	44.7	48.4	43.1	43.1	45.4	-	44.5	47.4	-	38.2	42.0	35.5	62.8	65.4	60.1
7/5/2016	2:35:00 AM	35.4	40.7	33.3	45.8	50.4	43.4	45.7	51.0	-	44.6	51.2	-	39.4	45.7	35.5	62.7	64.9	60.0
7/5/2016	2:36:00 AM	34.6	38.2	33.1	45.3	49.7	42.9	44.6	50.5	-	44.9	50.9	-	42.0	55.7	36.5	62.5	65.0	59.9
7/5/2016	2:37:00 AM	34.9	39.0	32.7	44.2	47.0	42.4	42.9	47.4	-	46.5	52.4	-	37.9	41.3	35.0	61.8	64.0	59.9
7/5/2016	2:38:00 AM	38.2	41.5	36.8	45.0	48.3	42.3	43.9	47.9	-	44.3	49.4	-	41.1	49.3	36.4	63.4	65.0	59.9
7/5/2016	2:39:00 AM	33.9	43.2	30.0	45.3	48.9	43.2	42.7	48.4	-	44.5	50.3	-	39.6	44.4	36.1	63.6	66.0	60.8
7/5/2016	2:40:00 AM	32.8	36.2	30.8	45.1	49.5	42.6	44.5	49.4	-	45.0	53.1	-	39.8	52.0	36.9	63.1	65.4	61.0
7/5/2016	2:41:00 AM	33.0	38.0	30.9	44.6	47.2	41.9	42.2	45.2	-	47.9	53.9	-	41.6	50.1	37.4	63.4	66.0	60.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	2:42:00 AM	33.2	39.8	29.8	43.8	48.4	40.9	42.1	45.1	-	45.6	51.3	-	40.0	50.8	37.0	62.4	64.7	59.9
7/5/2016	2:43:00 AM	33.5	40.8	30.9	46.0	48.7	43.4	40.4	42.1	-	48.5	63.5	-	38.2	43.1	35.5	62.5	64.4	60.1
7/5/2016	2:44:00 AM	33.4	37.3	31.3	46.0	49.4	43.7	41.4	43.1	-	49.5	60.7	-	38.3	42.8	35.6	62.4	64.6	60.3
7/5/2016	2:45:00 AM	33.0	38.3	31.5	45.7	49.0	42.3	41.9	44.9	-	46.5	50.2	-	39.4	46.1	35.6	62.1	63.9	60.1
7/5/2016	2:46:00 AM	32.5	35.4	30.3	44.8	48.1	41.6	44.3	50.2	-	45.7	51.0	-	37.3	43.0	34.6	62.5	65.0	60.4
7/5/2016	2:47:00 AM	32.8	38.2	31.2	45.3	48.4	43.2	42.7	44.8	-	45.3	51.9	-	37.6	41.5	34.9	62.8	65.0	61.1
7/5/2016	2:48:00 AM	34.2	40.2	30.0	45.7	55.0	43.5	41.9	46.2	-	44.9	49.8	-	36.8	42.8	34.5	62.8	66.0	59.8
7/5/2016	2:49:00 AM	36.9	39.7	34.8	45.5	51.1	43.6	41.6	44.5	-	49.2	62.0	-	37.0	42.7	34.6	62.7	64.3	60.5
7/5/2016	2:50:00 AM	37.6	40.4	34.3	45.9	48.7	44.1	44.4	48.3	-	44.5	53.2	-	36.4	42.3	34.5	62.5	64.5	60.4
7/5/2016	2:51:00 AM	36.4	40.6	31.2	45.2	48.3	43.0	42.9	48.6	-	43.3	47.4	-	36.3	40.6	34.3	62.3	64.2	60.2
7/5/2016	2:52:00 AM	32.4	38.0	29.5	46.4	48.9	44.4	41.4	43.1	-	43.5	50.0	-	36.2	42.4	34.2	62.8	65.1	60.6
7/5/2016	2:53:00 AM	33.9	37.8	31.1	46.3	48.6	43.5	41.2	45.0	-	44.6	51.5	-	36.0	42.8	34.3	62.6	64.8	60.4
7/5/2016	2:54:00 AM	31.7	38.7	29.3	45.9	49.3	43.5	41.1	47.5	-	44.0	47.4	-	41.5	60.0	35.1	62.9	65.4	60.8
7/5/2016	2:55:00 AM	32.1	36.2	29.6	45.8	49.5	43.1	40.4	43.3	-	42.7	49.0	-	39.5	49.8	35.0	63.4	65.5	61.0
7/5/2016	2:56:00 AM	31.5	38.5	29.5	45.3	49.0	43.5	42.7	46.1	-	44.9	53.5	-	36.8	47.9	34.4	62.8	66.5	60.9
7/5/2016	2:57:00 AM	34.9	39.1	29.6	45.4	47.9	43.6	41.3	43.4	-	53.7	67.5	-	43.7	58.6	34.0	62.5	64.9	60.8
7/5/2016	2:58:00 AM	30.7	36.5	28.0	45.9	49.5	44.0	41.5	44.6	-	43.6	45.9	-	36.0	42.3	33.4	61.7	64.1	59.1
7/5/2016	2:59:00 AM	30.1	35.3	28.0	45.7	49.4	42.8	40.4	42.8	-	45.9	51.3	-	41.2	55.9	33.0	61.4	63.8	59.6
7/5/2016	3:00:00 AM	30.8	37.3	28.9	46.2	48.7	44.0	41.1	42.4	-	43.5	47.3	-	39.0	53.9	33.9	61.8	63.8	60.0
7/5/2016	3:01:00 AM	31.3	36.9	29.3	46.3	50.2	43.5	41.8	47.3	-	42.7	48.0	-	37.5	42.1	33.5	61.4	63.6	59.9
7/5/2016	3:02:00 AM	30.5	36.2	28.2	46.4	49.5	43.2	41.6	43.0	-	43.3	50.2	-	35.8	41.2	33.3	61.6	64.1	59.3
7/5/2016	3:03:00 AM	31.2	37.2	29.6	44.4	48.8	41.6	40.8	43.0	-	45.5	50.3	-	35.1	43.4	33.1	61.6	63.5	59.9
7/5/2016	3:04:00 AM	35.1	38.7	29.5	45.6	48.5	43.0	40.7	42.6	-	44.1	49.4	-	36.1	47.3	34.0	62.7	64.9	60.4
7/5/2016	3:05:00 AM	37.3	40.6	30.0	45.1	47.8	42.9	41.5	44.5	-	43.5	46.0	-	37.5	41.7	33.7	62.3	64.4	60.7
7/5/2016	3:06:00 AM	32.5	38.2	30.6	46.4	51.1	44.5	40.9	43.5	-	43.7	50.6	-	36.2	42.0	33.3	62.1	64.9	59.5
7/5/2016	3:07:00 AM	32.5	37.2	30.8	45.9	48.6	44.4	41.8	44.7	-	42.7	45.6	-	36.2	42.0	33.5	62.7	65.3	59.9
7/5/2016	3:08:00 AM	32.1	36.8	30.1	45.6	48.3	42.6	40.7	42.6	-	42.3	46.5	-	36.7	44.0	33.3	62.4	64.8	60.2
7/5/2016	3:09:00 AM	32.5	39.1	30.3	44.5	46.4	42.7	40.9	44.0	-	42.2	46.9	-	36.2	42.6	32.7	61.8	64.2	59.9
7/5/2016	3:10:00 AM	31.8	37.4	29.5	45.6	47.8	43.5	41.2	43.0	-	47.3	53.8	-	35.3	42.3	32.3	61.5	63.6	60.1
7/5/2016	3:11:00 AM	33.1	39.9	30.8	46.0	48.3	44.2	41.0	44.4	-	49.5	52.3	-	33.9	39.1	31.9	61.4	64.4	58.2
7/5/2016	3:12:00 AM	36.4	40.2	30.9	46.7	49.8	45.0	42.1	47.0	-	49.2	52.2	-	35.0	38.5	32.6	62.6	64.6	60.6
7/5/2016	3:13:00 AM	36.8	39.6	30.4	45.6	49.1	43.3	42.9	48.5	-	49.3	53.0	-	35.0	40.8	32.6	62.0	64.2	60.2
7/5/2016	3:14:00 AM	31.6	36.9	27.7	45.8	48.4	44.1	41.2	43.6	-	49.3	53.1	-	35.0	39.8	33.1	62.7	66.2	60.0
7/5/2016	3:15:00 AM	31.8	40.2	29.3	46.4	49.5	44.6	41.3	44.2	-	49.6	52.8	-	34.3	42.1	32.3	62.0	64.6	59.5
7/5/2016	3:16:00 AM	32.0	37.2	29.5	45.5	47.6	42.2	42.2	45.4	-	49.4	52.9	-	37.7	43.0	32.6	61.9	64.5	59.5
7/5/2016	3:17:00 AM	32.3	36.3	30.1	43.6	46.9	41.1	41.1	42.7	-	49.9	52.9	-	35.3	38.5	32.9	62.6	65.2	60.8
7/5/2016	3:18:00 AM	35.5	39.4	30.1	45.7	48.3	43.3	41.3	43.4	-	49.6	52.7	-	34.0	44.2	31.8	61.9	64.2	59.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	3:19:00 AM	37.2	39.3	34.8	45.8	49.3	43.7	42.8	46.9	-	50.2	55.2	-	35.4	43.5	32.6	61.8	64.1	60.2
7/5/2016	3:20:00 AM	35.8	38.0	34.2	45.6	48.3	43.1	41.4	42.7	-	49.3	53.0	-	37.1	43.3	33.5	62.5	65.4	60.2
7/5/2016	3:21:00 AM	42.1	52.7	34.8	45.6	48.7	42.7	40.9	44.7	-	49.8	52.9	-	37.6	41.8	33.5	61.6	63.9	59.3
7/5/2016	3:22:00 AM	37.0	41.1	34.2	45.7	48.2	43.7	40.7	42.8	-	50.2	53.6	-	35.9	42.2	33.0	61.6	63.6	59.9
7/5/2016	3:23:00 AM	35.4	39.4	33.4	45.2	48.6	43.2	40.3	44.1	-	49.8	53.3	-	35.8	41.5	32.1	62.7	65.0	60.2
7/5/2016	3:24:00 AM	38.6	41.6	34.9	45.7	48.9	43.4	42.0	46.5	-	49.6	54.0	-	36.9	42.3	33.4	62.6	64.6	60.8
7/5/2016	3:25:00 AM	40.0	42.3	38.0	46.6	48.9	44.4	41.6	46.1	-	49.6	52.6	-	37.7	43.6	33.4	62.7	65.2	60.8
7/5/2016	3:26:00 AM	38.1	41.0	34.4	46.6	48.7	44.1	40.8	42.0	-	49.7	52.5	-	35.3	39.2	33.1	62.5	65.0	60.5
7/5/2016	3:27:00 AM	35.7	39.7	32.5	45.4	48.4	43.6	42.9	45.5	-	49.8	53.5	-	36.3	40.0	34.2	61.6	64.3	59.8
7/5/2016	3:28:00 AM	33.3	37.2	30.1	45.4	48.4	43.1	42.1	45.6	-	49.7	53.0	-	36.0	41.5	32.9	61.4	64.0	59.2
7/5/2016	3:29:00 AM	32.7	37.8	30.3	45.8	49.5	43.0	44.4	46.7	-	50.3	53.0	-	36.0	40.0	33.1	61.9	64.4	59.7
7/5/2016	3:30:00 AM	32.3	39.7	28.0	46.8	49.2	44.8	42.8	46.8	-	49.9	52.6	-	37.7	42.9	33.9	61.5	64.7	59.4
7/5/2016	3:31:00 AM	36.9	40.5	32.7	46.7	50.2	44.4	42.1	44.6	-	49.4	52.2	-	37.0	44.2	32.9	61.5	64.6	59.0
7/5/2016	3:32:00 AM	35.6	39.4	28.0	46.1	48.8	43.9	41.6	44.6	-	49.2	52.3	-	37.2	43.1	33.4	62.0	64.2	60.4
7/5/2016	3:33:00 AM	30.8	37.0	28.0	46.3	48.9	43.7	41.5	44.9	-	50.1	53.3	-	37.7	49.4	33.5	61.6	63.6	59.4
7/5/2016	3:34:00 AM	30.6	36.9	27.4	47.6	50.8	44.9	40.9	42.6	-	50.3	53.4	-	38.1	43.1	32.7	61.1	63.0	58.8
7/5/2016	3:35:00 AM	30.6	38.1	27.1	47.3	49.4	45.5	42.0	44.3	-	49.8	52.2	-	35.4	42.8	33.0	61.6	67.7	59.5
7/5/2016	3:36:00 AM	30.8	36.3	27.9	45.6	48.2	43.5	41.5	43.1	-	49.8	52.7	-	37.2	48.0	32.7	62.6	65.4	60.5
7/5/2016	3:37:00 AM	35.0	39.7	29.6	45.9	48.4	43.7	41.9	44.7	-	50.0	52.6	-	37.0	47.0	33.3	62.0	64.5	59.5
7/5/2016	3:38:00 AM	37.0	40.0	35.1	46.2	48.9	44.1	42.8	46.1	-	50.0	52.6	-	37.9	43.8	34.0	61.3	63.9	59.2
7/5/2016	3:39:00 AM	31.2	38.1	27.3	45.7	47.6	43.7	43.6	46.1	-	49.9	52.5	-	35.3	43.0	33.0	61.6	63.8	59.3
7/5/2016	3:40:00 AM	29.6	37.7	27.4	46.6	49.0	44.9	43.3	49.6	-	50.1	53.2	-	37.3	44.1	33.4	62.2	64.0	60.5
7/5/2016	3:41:00 AM	30.1	36.9	27.7	46.8	50.4	44.8	42.4	47.1	-	50.2	53.6	-	38.4	48.2	34.2	62.1	65.6	60.0
7/5/2016	3:42:00 AM	30.6	36.1	27.8	47.9	50.4	45.7	40.9	43.0	-	50.9	55.9	-	36.6	41.9	34.0	62.3	65.0	60.5
7/5/2016	3:43:00 AM	31.3	37.8	28.4	47.3	49.4	44.7	42.4	44.5	-	49.9	52.6	-	36.2	40.2	34.0	62.0	64.7	60.1
7/5/2016	3:44:00 AM	37.2	47.5	34.0	46.4	49.7	44.7	42.0	43.3	-	50.5	53.1	-	35.1	43.2	33.0	62.0	64.3	60.1
7/5/2016	3:45:00 AM	34.3	40.7	27.7	47.6	50.8	44.9	42.6	44.3	-	50.9	54.3	-	35.4	40.1	33.3	61.5	64.2	59.1
7/5/2016	3:46:00 AM	29.0	34.5	27.2	47.3	49.2	45.3	43.4	47.3	-	50.4	52.9	-	36.3	46.0	33.5	62.0	64.3	59.6
7/5/2016	3:47:00 AM	29.5	37.3	27.6	46.7	50.3	44.2	43.9	46.0	-	50.5	52.7	-	36.5	39.2	33.8	62.0	64.4	60.0
7/5/2016	3:48:00 AM	32.1	48.7	27.3	46.6	49.1	44.2	43.0	47.5	-	50.6	53.6	-	36.5	42.0	34.3	61.7	63.9	59.8
7/5/2016	3:49:00 AM	31.5	38.1	28.0	46.7	50.5	44.1	42.6	45.2	-	50.2	52.8	-	39.0	52.7	33.7	61.2	64.1	58.3
7/5/2016	3:50:00 AM	35.6	39.4	30.4	45.9	49.4	43.1	43.9	50.8	-	50.5	53.6	-	36.7	44.8	33.3	61.4	63.7	59.6
7/5/2016	3:51:00 AM	36.9	41.8	31.2	45.7	49.2	42.7	43.0	45.9	-	50.3	53.7	-	36.5	41.3	33.4	61.1	63.6	59.1
7/5/2016	3:52:00 AM	30.6	36.5	27.6	46.5	48.7	43.8	42.9	46.2	-	49.8	52.7	-	35.5	40.0	32.7	61.1	63.8	59.0
7/5/2016	3:53:00 AM	34.1	38.2	27.9	46.7	49.9	44.5	42.7	44.8	-	50.1	53.3	-	38.2	44.1	32.5	60.6	63.0	59.0
7/5/2016	3:54:00 AM	35.4	38.6	33.1	46.5	49.4	44.3	42.9	47.4	-	50.0	53.0	-	37.3	44.8	34.5	62.2	64.8	59.8
7/5/2016	3:55:00 AM	35.3	38.5	33.0	46.0	49.3	43.0	42.6	45.4	-	50.3	53.6	-	35.5	37.4	33.0	62.2	65.4	59.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	3:56:00 AM	35.7	46.5	28.2	46.5	49.0	43.0	42.0	45.7	-	50.2	53.6	-	34.9	37.7	32.6	62.4	65.2	60.2
7/5/2016	3:57:00 AM	38.9	51.4	34.5	46.7	51.8	43.7	42.7	45.2	-	50.3	53.5	-	36.4	42.1	32.1	62.1	64.4	60.4
7/5/2016	3:58:00 AM	36.3	46.8	27.4	46.4	48.6	44.2	43.2	45.0	-	51.0	54.9	-	37.4	49.8	32.6	60.9	62.6	59.7
7/5/2016	3:59:00 AM	29.8	40.6	26.8	45.9	49.3	43.8	43.0	44.2	-	50.5	53.3	-	36.3	40.9	32.7	61.3	63.8	58.8
7/5/2016	4:00:00 AM	29.4	37.9	26.9	45.8	49.1	42.9	43.7	47.9	-	50.4	53.6	-	35.9	38.7	33.5	62.1	65.0	59.9
7/5/2016	4:01:00 AM	33.0	50.7	27.3	47.0	50.4	44.6	44.7	50.2	-	50.9	55.7	-	34.8	41.5	31.1	62.0	63.9	59.9
7/5/2016	4:02:00 AM	30.8	37.4	26.8	47.2	49.7	45.1	46.1	54.0	-	50.5	53.6	-	34.0	40.6	31.2	62.0	64.1	60.0
7/5/2016	4:03:00 AM	36.1	48.6	27.9	47.1	49.4	45.1	47.2	50.7	-	50.8	53.6	-	33.9	37.3	31.3	62.1	65.4	59.6
7/5/2016	4:04:00 AM	37.1	40.2	30.4	46.7	49.4	44.6	46.2	49.4	-	50.8	54.4	-	34.6	40.4	31.9	61.1	63.0	59.2
7/5/2016	4:05:00 AM	31.3	42.7	27.0	45.7	48.2	43.8	44.0	48.9	-	50.9	53.6	-	37.4	45.1	32.9	61.5	63.4	59.3
7/5/2016	4:06:00 AM	30.2	35.8	27.1	46.0	49.0	44.2	43.3	49.1	-	51.1	54.3	-	36.8	44.3	33.1	61.4	63.8	59.0
7/5/2016	4:07:00 AM	33.1	38.3	29.5	47.6	50.8	45.2	42.9	53.3	-	51.0	56.0	-	36.3	43.2	33.5	60.9	63.1	58.4
7/5/2016	4:08:00 AM	32.8	37.7	30.0	47.1	50.5	44.1	43.4	47.4	-	50.7	53.1	-	36.0	39.8	33.9	61.9	65.2	59.3
7/5/2016	4:09:00 AM	33.9	39.6	30.1	46.7	49.8	44.5	43.4	46.1	-	50.5	53.1	-	36.5	48.5	32.7	61.6	64.4	59.6
7/5/2016	4:10:00 AM	37.1	39.3	34.3	46.8	49.0	44.6	43.7	48.2	-	51.1	54.3	-	36.8	46.2	34.0	61.9	63.6	59.6
7/5/2016	4:11:00 AM	34.3	38.5	30.1	46.2	48.2	43.9	43.8	46.8	-	50.8	53.9	-	36.2	39.9	34.0	61.2	63.6	59.1
7/5/2016	4:12:00 AM	33.9	39.6	31.5	45.6	48.0	43.6	44.6	47.1	-	50.9	53.6	-	35.6	39.8	33.1	61.7	65.2	59.2
7/5/2016	4:13:00 AM	35.2	41.2	32.6	46.6	59.0	44.1	44.6	46.6	-	50.7	53.4	-	37.4	42.4	34.5	61.2	63.7	58.9
7/5/2016	4:14:00 AM	35.0	39.4	32.5	47.7	52.0	44.9	45.8	50.9	-	50.6	54.3	-	37.9	41.2	34.5	61.4	64.8	58.3
7/5/2016	4:15:00 AM	42.5	49.7	36.3	48.0	54.5	45.5	43.7	48.6	-	51.0	54.3	-	37.4	39.9	35.3	62.2	64.8	60.1
7/5/2016	4:16:00 AM	38.1	40.8	34.2	46.6	49.6	44.9	43.2	45.6	-	50.8	54.2	-	38.7	43.4	35.6	61.6	63.6	60.0
7/5/2016	4:17:00 AM	37.6	40.7	32.7	45.7	55.8	43.6	43.6	45.9	-	51.4	55.7	-	38.1	44.4	34.5	62.8	65.1	60.4
7/5/2016	4:18:00 AM	33.1	37.8	30.4	45.4	48.0	42.9	43.6	49.0	-	51.3	54.4	-	37.4	41.6	34.4	61.8	65.0	58.5
7/5/2016	4:19:00 AM	34.9	43.6	30.9	46.7	50.0	44.5	43.3	47.4	-	51.1	54.8	-	37.8	42.7	34.8	61.5	64.2	58.9
7/5/2016	4:20:00 AM	34.3	41.1	28.9	48.6	62.8	45.0	43.3	45.8	-	54.1	63.9	-	36.3	40.7	33.5	60.8	62.9	58.6
7/5/2016	4:21:00 AM	34.2	50.4	28.6	45.9	48.7	43.6	43.8	46.0	-	50.9	54.3	-	36.6	41.5	33.7	61.1	63.4	59.2
7/5/2016	4:22:00 AM	32.7	41.8	29.5	46.0	49.2	43.6	44.8	48.4	-	51.0	54.4	-	37.3	44.8	35.1	61.5	63.8	59.1
7/5/2016	4:23:00 AM	44.9	56.5	29.3	46.3	49.9	44.5	44.0	46.3	-	51.2	55.0	-	37.3	42.1	34.6	60.1	61.7	58.2
7/5/2016	4:24:00 AM	33.3	38.4	30.1	54.3	64.6	45.9	43.1	46.1	-	50.7	54.9	-	37.3	40.5	35.3	61.2	64.3	59.5
7/5/2016	4:25:00 AM	34.6	39.5	30.0	52.4	67.0	44.2	43.4	46.3	-	50.5	55.0	-	36.8	43.8	34.2	61.4	63.5	59.6
7/5/2016	4:26:00 AM	31.0	36.5	28.9	46.6	48.9	44.6	43.7	46.9	-	50.6	54.1	-	36.9	40.6	34.8	61.2	64.5	58.8
7/5/2016	4:27:00 AM	30.7	37.2	28.0	46.8	50.5	44.5	43.2	46.1	-	51.0	54.3	-	36.5	38.5	34.9	61.2	64.4	59.2
7/5/2016	4:28:00 AM	36.6	44.2	27.8	47.3	49.5	44.7	43.7	48.3	-	51.4	53.9	-	37.2	41.2	34.8	60.9	63.4	58.7
7/5/2016	4:29:00 AM	37.3	42.7	34.6	46.9	50.6	44.2	44.1	47.0	-	51.2	53.5	-	37.6	41.3	35.7	61.2	63.1	59.5
7/5/2016	4:30:00 AM	36.3	39.3	34.2	46.4	48.5	44.4	44.9	48.1	-	51.2	53.4	-	38.6	40.6	36.8	61.2	64.1	58.5
7/5/2016	4:31:00 AM	35.3	38.4	28.6	47.8	52.2	45.2	44.5	46.8	-	50.9	54.4	-	38.2	40.8	35.7	61.8	64.2	59.0
7/5/2016	4:32:00 AM	35.6	40.0	28.4	46.6	48.7	45.0	45.8	48.5	-	51.2	53.7	-	38.0	41.9	35.6	60.9	64.0	58.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	4:33:00 AM	32.0	39.9	30.1	45.9	48.4	43.6	47.4	49.8	-	51.6	53.7	-	37.9	46.3	35.7	61.8	64.8	59.6
7/5/2016	4:34:00 AM	32.8	51.4	28.9	46.6	49.4	44.9	46.7	48.1	-	51.4	54.5	-	38.9	42.0	35.8	61.1	62.7	59.2
7/5/2016	4:35:00 AM	31.8	36.4	29.5	45.5	50.2	43.9	45.9	48.2	-	52.2	55.6	-	38.5	42.6	36.3	61.6	64.0	59.2
7/5/2016	4:36:00 AM	34.0	42.7	30.4	46.5	49.7	44.4	47.2	50.6	-	52.0	55.6	-	37.4	41.0	35.4	61.2	63.7	59.0
7/5/2016	4:37:00 AM	35.8	42.8	32.1	46.2	48.1	43.9	47.5	50.0	-	51.6	54.9	-	37.2	40.1	35.5	61.2	63.7	58.6
7/5/2016	4:38:00 AM	34.5	46.9	30.3	45.3	50.0	43.4	46.3	50.1	-	52.2	55.5	-	37.1	40.4	35.5	61.0	62.7	59.3
7/5/2016	4:39:00 AM	35.4	39.7	30.6	46.7	50.1	44.8	44.8	47.4	-	52.1	55.6	-	37.9	41.5	35.5	61.3	63.4	59.3
7/5/2016	4:40:00 AM	46.4	58.3	28.9	47.2	49.1	45.1	45.2	49.4	-	52.7	56.0	-	38.2	41.2	35.4	62.1	65.8	59.8
7/5/2016	4:41:00 AM	39.7	50.0	30.1	45.9	49.4	43.1	46.0	48.1	-	52.9	55.8	-	37.6	41.5	35.4	62.4	65.2	60.6
7/5/2016	4:42:00 AM	46.5	56.8	30.1	46.2	49.4	43.2	45.0	48.1	-	52.6	58.0	-	37.1	48.3	35.4	61.3	63.4	59.5
7/5/2016	4:43:00 AM	53.3	54.6	52.4	47.5	51.5	45.3	45.3	50.2	-	52.0	54.3	-	36.4	39.8	34.0	60.1	62.5	57.8
7/5/2016	4:44:00 AM	53.7	55.5	52.7	46.1	51.5	43.7	44.4	47.6	-	52.1	54.4	-	37.7	42.7	35.6	61.8	64.9	59.3
7/5/2016	4:45:00 AM	55.1	58.7	53.5	45.3	49.2	43.1	45.4	49.7	-	51.6	55.2	-	37.6	39.8	35.8	62.1	64.4	59.6
7/5/2016	4:46:00 AM	54.3	56.0	53.0	45.9	48.8	43.3	44.1	47.3	-	51.3	53.8	-	38.6	46.5	35.8	61.2	63.6	59.2
7/5/2016	4:47:00 AM	53.9	55.2	52.6	46.7	49.2	44.8	45.4	48.3	-	51.8	54.9	-	37.8	39.7	36.2	61.8	64.7	59.1
7/5/2016	4:48:00 AM	53.6	54.7	52.3	45.7	48.8	43.9	45.2	48.3	-	51.5	54.7	-	36.7	41.8	35.0	61.5	64.1	58.7
7/5/2016	4:49:00 AM	53.2	57.1	51.9	47.3	50.5	44.7	46.1	50.1	-	51.9	54.5	-	37.0	39.1	35.4	61.9	65.8	59.0
7/5/2016	4:50:00 AM	53.4	66.0	51.3	48.1	49.9	45.9	46.7	50.2	-	51.8	54.4	-	37.5	41.5	35.8	61.7	63.8	59.6
7/5/2016	4:51:00 AM	52.1	59.5	51.2	48.0	50.8	45.6	46.1	49.9	-	52.2	54.8	-	38.6	42.1	36.5	61.0	63.2	59.2
7/5/2016	4:52:00 AM	52.0	52.9	51.3	46.6	50.0	42.9	46.1	49.5	-	52.8	55.9	-	37.4	40.4	35.5	61.0	63.2	58.5
7/5/2016	4:53:00 AM	52.0	52.7	51.1	46.5	49.3	44.3	46.7	49.6	-	52.3	56.1	-	37.3	40.5	35.1	61.1	63.2	59.4
7/5/2016	4:54:00 AM	52.1	53.0	51.3	47.2	50.8	45.4	47.2	50.6	-	52.2	57.6	-	37.3	40.9	35.1	61.7	63.7	59.8
7/5/2016	4:55:00 AM	52.0	53.0	51.2	46.2	48.6	44.3	47.1	49.8	-	51.6	54.2	-	37.9	39.9	36.2	60.3	62.5	57.5
7/5/2016	4:56:00 AM	52.2	53.3	51.1	46.3	48.6	43.7	46.1	48.8	-	52.5	55.9	-	38.1	40.8	36.5	61.0	63.5	57.3
7/5/2016	4:57:00 AM	52.1	53.2	51.3	47.5	51.0	45.4	46.3	48.7	-	51.7	54.0	-	37.3	39.9	35.6	61.2	64.1	58.4
7/5/2016	4:58:00 AM	52.0	53.1	51.2	47.4	49.5	45.5	46.8	49.4	-	52.2	54.9	-	37.1	40.2	34.8	61.4	64.4	58.9
7/5/2016	4:59:00 AM	51.9	53.0	51.1	47.0	49.3	44.7	46.9	56.1	-	52.1	55.0	-	39.0	43.0	35.7	61.8	63.6	59.7
7/5/2016	5:00:00 AM	52.3	53.3	51.4	47.1	49.7	44.5	46.9	51.4	-	52.5	56.7	-	39.8	46.3	35.4	61.7	64.2	59.4
7/5/2016	5:01:00 AM	52.4	53.3	51.5	47.5	49.4	45.1	47.7	52.7	-	52.2	58.7	-	39.2	46.1	35.4	61.5	63.4	58.8
7/5/2016	5:02:00 AM	52.2	53.2	51.4	46.7	50.1	45.0	47.6	51.3	-	52.8	59.4	-	37.9	43.8	34.9	61.9	65.1	59.9
7/5/2016	5:03:00 AM	52.2	53.0	51.2	47.1	49.2	45.5	47.6	51.4	-	52.2	54.6	-	37.2	44.7	35.0	62.1	64.8	60.1
7/5/2016	5:04:00 AM	51.9	52.7	51.2	47.4	49.3	45.7	47.6	56.3	-	51.3	55.2	-	36.7	40.7	35.0	61.4	63.8	59.0
7/5/2016	5:05:00 AM	51.9	54.4	51.1	46.4	49.2	44.5	46.1	49.2	-	50.0	54.8	-	36.4	40.6	34.9	61.1	63.8	58.9
7/5/2016	5:06:00 AM	51.9	52.9	51.1	47.3	49.6	45.0	45.9	49.7	-	50.6	58.4	-	36.7	42.8	35.0	60.6	62.2	58.8
7/5/2016	5:07:00 AM	52.3	61.4	51.2	46.7	49.6	44.5	45.5	49.1	-	50.0	52.3	-	37.1	40.2	35.5	62.0	64.3	60.0
7/5/2016	5:08:00 AM	53.1	69.8	51.3	45.5	48.6	42.7	48.1	53.4	-	49.9	56.3	-	37.9	41.6	36.1	61.6	64.0	59.7
7/5/2016	5:09:00 AM	51.7	52.6	51.1	46.4	48.9	43.6	46.1	50.2	-	49.6	54.5	-	37.4	40.7	35.4	61.3	64.2	59.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	5:10:00 AM	51.8	52.9	51.0	46.7	49.3	44.8	47.9	51.0	-	50.5	55.3	-	37.4	40.4	35.4	61.1	63.9	57.9
7/5/2016	5:11:00 AM	52.5	59.5	51.1	46.7	49.7	44.8	47.7	50.9	-	51.3	55.4	-	38.6	46.8	35.6	61.3	63.4	59.1
7/5/2016	5:12:00 AM	52.0	62.6	50.9	47.8	49.9	45.9	47.4	50.3	-	51.5	58.2	-	37.7	40.2	35.7	61.1	64.0	58.7
7/5/2016	5:13:00 AM	52.1	63.6	50.9	47.7	49.7	45.2	48.1	51.1	-	50.9	57.2	-	38.6	45.0	36.0	61.3	63.1	59.6
7/5/2016	5:14:00 AM	52.8	62.2	51.1	47.4	49.6	45.5	47.1	49.8	-	50.8	55.4	-	37.5	41.4	35.3	61.7	63.8	59.9
7/5/2016	5:15:00 AM	53.9	65.3	51.4	47.9	57.6	45.5	47.1	49.6	-	55.3	66.3	-	37.1	41.1	35.8	61.1	62.7	59.0
7/5/2016	5:16:00 AM	52.1	64.2	50.9	47.0	50.1	45.7	47.0	49.8	-	51.5	64.7	-	37.6	45.1	35.6	61.3	63.7	58.9
7/5/2016	5:17:00 AM	51.7	52.5	50.8	48.0	50.6	46.1	47.4	51.4	-	50.5	54.8	-	38.9	44.7	36.0	61.0	63.9	59.4
7/5/2016	5:18:00 AM	52.1	58.3	50.9	46.8	49.6	45.0	46.6	48.9	-	51.3	57.2	-	38.6	44.1	36.4	61.3	64.2	58.5
7/5/2016	5:19:00 AM	52.6	62.2	50.9	48.2	50.9	45.5	46.8	49.7	-	51.0	54.6	-	38.1	42.1	36.3	60.9	63.8	59.2
7/5/2016	5:20:00 AM	51.8	56.8	51.0	47.6	50.2	45.7	47.5	49.9	-	50.8	55.0	-	38.3	41.1	36.4	61.8	63.7	59.6
7/5/2016	5:21:00 AM	51.7	52.5	50.9	46.6	49.2	44.0	48.1	50.4	-	50.5	55.1	-	38.4	44.9	36.9	62.0	64.2	60.0
7/5/2016	5:22:00 AM	52.4	62.1	50.9	44.7	46.5	43.4	46.8	49.9	-	49.4	53.4	-	38.7	47.0	36.2	61.3	63.8	58.7
7/5/2016	5:23:00 AM	52.0	57.1	51.1	47.6	51.3	44.0	46.9	49.3	-	51.1	55.5	-	39.1	48.2	36.6	61.3	64.2	59.8
7/5/2016	5:24:00 AM	51.7	53.7	50.8	47.4	50.0	45.2	46.7	48.7	-	50.9	55.8	-	39.5	55.4	36.0	61.9	65.3	59.8
7/5/2016	5:25:00 AM	53.2	58.5	51.1	46.5	49.2	44.7	47.2	50.8	-	51.3	60.9	-	38.8	42.3	37.1	61.7	64.1	59.2
7/5/2016	5:26:00 AM	51.8	52.7	51.0	47.0	50.8	43.8	46.5	49.9	-	51.2	57.3	-	44.6	67.3	36.9	61.9	63.6	60.0
7/5/2016	5:27:00 AM	51.8	52.6	51.0	46.4	49.2	43.9	46.5	51.1	-	52.0	56.2	-	40.0	55.8	36.8	61.7	63.7	59.9
7/5/2016	5:28:00 AM	51.9	53.7	51.1	47.2	52.9	44.2	47.0	49.9	-	51.6	55.1	-	38.8	48.2	37.1	61.5	63.7	59.5
7/5/2016	5:29:00 AM	51.7	52.8	50.9	45.9	53.7	43.3	48.4	54.7	-	51.7	55.8	-	39.7	48.9	38.0	62.3	64.5	59.6
7/5/2016	5:30:00 AM	51.9	56.0	51.0	46.9	50.0	44.1	47.2	50.3	-	51.6	56.2	-	39.5	44.0	37.8	61.3	63.2	59.0
7/5/2016	5:31:00 AM	52.1	54.7	51.3	46.4	49.4	44.3	46.3	48.5	-	54.3	64.5	-	39.6	42.3	37.8	62.1	64.7	59.6
7/5/2016	5:32:00 AM	53.3	61.8	51.2	46.6	48.8	44.8	47.2	49.9	-	53.6	61.1	-	39.7	52.7	37.4	61.5	64.2	59.4
7/5/2016	5:33:00 AM	51.9	52.9	51.2	47.1	49.9	45.3	47.5	50.2	-	51.8	55.2	-	41.8	46.6	37.5	62.3	64.6	59.7
7/5/2016	5:34:00 AM	52.0	52.8	51.1	46.0	51.0	44.3	48.3	51.1	-	53.3	56.9	-	41.3	46.6	38.4	61.3	64.2	59.2
7/5/2016	5:35:00 AM	52.1	53.1	51.2	47.4	50.6	45.3	47.0	51.1	-	53.3	56.5	-	41.4	46.6	38.9	60.9	64.1	58.9
7/5/2016	5:36:00 AM	52.0	52.7	51.2	46.8	55.0	44.6	47.7	53.6	-	53.2	56.9	-	39.8	42.0	38.2	61.5	63.7	58.2
7/5/2016	5:37:00 AM	52.5	57.7	51.2	47.1	51.7	44.8	47.5	50.0	-	53.2	56.4	-	40.7	48.7	38.2	61.1	63.7	58.8
7/5/2016	5:38:00 AM	52.3	56.2	51.0	48.8	56.6	46.2	47.4	52.6	-	54.1	58.5	-	44.9	63.3	38.4	61.8	63.7	60.0
7/5/2016	5:39:00 AM	52.1	55.2	51.1	47.9	49.9	45.6	52.3	61.4	-	54.0	59.6	-	40.5	46.2	38.4	61.4	63.4	59.5
7/5/2016	5:40:00 AM	51.6	52.5	50.9	46.8	49.6	44.9	47.7	50.9	-	54.4	61.5	-	42.6	55.6	39.1	62.0	63.9	59.9
7/5/2016	5:41:00 AM	51.7	52.5	50.7	47.3	49.7	44.3	47.8	50.9	-	54.1	58.1	-	41.4	50.1	39.1	61.8	63.5	60.0
7/5/2016	5:42:00 AM	52.0	59.1	50.9	46.9	49.1	45.3	49.2	68.0	-	53.2	57.7	-	40.2	43.7	38.2	61.4	63.5	59.5
7/5/2016	5:43:00 AM	51.6	52.5	50.6	47.9	53.7	46.0	55.6	66.9	-	53.6	57.0	-	43.0	59.1	37.8	62.8	66.1	60.2
7/5/2016	5:44:00 AM	51.6	52.5	50.9	47.5	53.7	45.9	49.4	56.6	-	57.7	76.4	-	43.7	59.0	38.1	61.6	63.6	59.2
7/5/2016	5:45:00 AM	51.7	55.3	50.9	47.0	49.4	45.3	49.7	56.7	-	52.4	56.9	-	40.8	55.7	37.8	61.6	63.9	59.9
7/5/2016	5:46:00 AM	52.1	53.2	51.1	46.4	49.0	44.7	49.3	60.0	-	53.0	58.5	-	40.6	46.1	38.7	61.8	65.5	60.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	5:47:00 AM	51.9	53.9	50.8	48.1	59.2	44.4	48.6	52.2	-	53.3	57.1	-	41.7	45.7	39.0	61.9	64.1	60.3
7/5/2016	5:48:00 AM	51.6	52.4	50.9	48.5	63.2	44.9	48.8	54.3	-	53.3	56.6	-	41.6	49.4	39.0	62.7	65.6	60.4
7/5/2016	5:49:00 AM	51.6	52.8	50.8	47.4	56.7	44.9	48.6	52.9	-	52.4	56.2	-	41.5	52.1	39.3	61.9	64.2	60.1
7/5/2016	5:50:00 AM	51.8	54.6	51.0	47.3	49.2	45.1	51.7	58.6	-	53.0	56.8	-	41.0	44.5	39.0	61.7	64.0	59.7
7/5/2016	5:51:00 AM	51.7	52.8	50.8	47.7	53.7	45.6	52.6	61.5	-	53.4	56.3	-	40.2	51.7	38.2	62.1	64.7	60.3
7/5/2016	5:52:00 AM	51.6	52.6	50.9	48.9	52.4	46.0	50.0	54.3	-	52.4	56.6	-	41.8	60.0	38.3	61.6	64.1	59.6
7/5/2016	5:53:00 AM	51.8	52.7	51.0	49.2	56.6	46.0	51.2	66.8	-	54.0	58.1	-	42.5	60.3	38.1	62.4	66.5	59.6
7/5/2016	5:54:00 AM	51.9	53.2	51.1	47.7	49.8	46.0	49.5	54.0	-	53.5	59.5	-	39.5	44.2	37.7	62.0	64.4	60.0
7/5/2016	5:55:00 AM	52.1	54.9	51.3	47.2	52.2	45.9	48.6	54.0	-	55.1	62.0	-	40.3	45.4	37.8	62.1	64.7	60.3
7/5/2016	5:56:00 AM	52.0	53.5	51.2	46.7	52.8	44.4	48.8	52.3	-	54.3	59.5	-	39.9	50.6	37.8	60.6	63.7	58.6
7/5/2016	5:57:00 AM	52.1	53.2	51.3	47.1	50.0	45.3	47.6	50.2	-	53.6	58.3	-	40.5	45.8	38.9	61.8	64.3	59.2
7/5/2016	5:58:00 AM	52.0	53.4	51.2	46.5	48.5	44.4	48.9	58.0	-	55.3	63.1	-	40.8	47.5	38.6	60.8	62.7	58.2
7/5/2016	5:59:00 AM	52.0	52.8	51.2	48.0	50.7	45.2	47.8	53.3	-	56.2	63.2	-	39.8	51.2	38.0	61.1	64.0	59.1
7/5/2016	6:00:00 AM	52.2	55.5	51.2	47.7	49.7	45.8	48.5	56.0	-	56.0	62.4	-	40.1	51.8	37.7	62.3	64.5	60.1
7/5/2016	6:01:00 AM	51.9	55.0	51.0	47.2	49.7	45.4	48.3	54.5	-	55.4	65.7	-	39.9	46.8	38.1	63.4	66.4	61.3
7/5/2016	6:02:00 AM	51.6	57.4	50.7	47.7	50.2	46.0	48.2	51.6	-	54.2	62.5	-	43.1	53.1	38.2	62.7	65.7	61.1
7/5/2016	6:03:00 AM	51.6	52.6	50.9	47.0	49.8	44.8	48.8	53.5	-	53.3	63.3	-	39.9	45.9	38.2	61.9	64.4	60.1
7/5/2016	6:04:00 AM	51.6	52.5	50.8	46.2	49.0	44.8	49.8	59.2	-	53.0	58.1	-	39.7	46.9	37.9	61.9	64.2	60.3
7/5/2016	6:05:00 AM	51.8	52.8	51.0	46.5	52.2	44.5	49.1	58.0	-	54.1	58.6	-	39.6	43.1	38.0	61.6	64.5	59.3
7/5/2016	6:06:00 AM	51.7	52.6	51.0	46.1	50.7	44.1	47.7	53.2	-	54.8	60.5	-	39.7	43.0	38.1	61.6	63.7	58.9
7/5/2016	6:07:00 AM	51.9	53.0	51.0	49.2	53.1	45.9	49.3	58.1	-	54.8	60.6	-	40.1	48.4	38.0	62.4	66.0	60.1
7/5/2016	6:08:00 AM	51.9	53.3	51.2	48.4	50.2	46.4	49.2	56.0	-	54.3	58.1	-	39.1	43.3	37.1	62.4	65.3	60.1
7/5/2016	6:09:00 AM	53.6	67.3	50.9	48.8	51.7	46.2	50.5	60.7	-	52.6	56.4	-	40.4	45.4	37.4	62.1	64.8	59.4
7/5/2016	6:10:00 AM	54.6	62.4	51.7	55.9	64.0	46.3	49.9	59.6	-	52.7	59.5	-	40.4	50.0	38.3	61.9	64.6	60.2
7/5/2016	6:11:00 AM	57.0	59.0	55.2	48.6	55.0	45.7	50.4	61.5	-	52.1	55.9	-	40.7	44.5	38.3	62.8	64.8	61.1
7/5/2016	6:12:00 AM	56.1	58.7	51.9	47.9	52.0	45.9	52.2	62.8	-	52.6	58.1	-	41.3	44.0	39.4	62.1	64.9	60.4
7/5/2016	6:13:00 AM	54.0	65.7	51.1	48.5	51.1	46.6	54.2	68.1	-	53.2	55.9	-	40.6	56.9	38.1	61.7	63.6	60.2
7/5/2016	6:14:00 AM	52.4	59.1	51.3	49.3	53.0	47.3	50.6	61.9	-	53.1	56.0	-	40.2	46.0	38.2	62.1	63.9	59.9
7/5/2016	6:15:00 AM	52.9	60.0	51.5	56.9	65.4	47.7	50.1	57.2	-	53.4	56.6	-	40.5	57.6	37.8	62.1	63.7	60.1
7/5/2016	6:16:00 AM	51.9	53.1	51.1	49.6	51.9	47.7	51.2	57.9	-	52.8	56.0	-	39.7	42.9	37.7	62.6	65.1	60.8
7/5/2016	6:17:00 AM	52.1	53.0	51.1	49.1	51.9	47.0	49.1	58.3	-	54.9	61.5	-	40.6	51.6	37.5	62.6	64.5	60.8
7/5/2016	6:18:00 AM	52.1	52.9	51.2	53.1	61.8	48.3	48.8	53.4	-	55.3	61.8	-	40.9	49.8	38.4	62.4	64.9	60.5
7/5/2016	6:19:00 AM	52.1	54.9	51.2	50.8	53.7	48.5	49.0	54.3	-	53.3	57.2	-	40.3	54.9	37.4	61.5	64.6	59.6
7/5/2016	6:20:00 AM	52.0	53.9	51.2	51.4	53.8	49.9	50.2	56.6	-	53.6	56.0	-	39.6	41.9	37.9	62.1	64.2	60.1
7/5/2016	6:21:00 AM	52.6	57.6	51.0	50.7	63.2	48.4	48.9	55.3	-	52.8	55.2	-	40.3	44.5	38.1	62.4	65.1	60.3
7/5/2016	6:22:00 AM	52.2	55.9	51.1	50.1	52.0	48.7	50.4	56.4	-	52.7	57.0	-	40.4	46.3	38.3	62.1	65.1	60.3
7/5/2016	6:23:00 AM	51.1	55.6	40.5	50.9	53.5	49.0	58.3	77.4	-	54.3	58.7	-	42.0	49.2	38.1	62.6	64.4	61.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	6:24:00 AM	41.0	50.2	36.1	52.5	59.0	50.0	62.4	79.8	-	55.9	62.3	-	39.9	45.3	37.9	63.2	66.9	60.7
7/5/2016	6:25:00 AM	38.8	47.1	33.1	53.2	58.0	50.6	50.3	60.2	-	54.3	60.2	-	40.4	45.4	37.7	62.8	65.2	60.8
7/5/2016	6:26:00 AM	41.5	50.5	35.8	52.6	56.5	50.8	52.2	70.9	-	54.2	58.4	-	39.8	43.3	38.0	62.0	64.4	60.2
7/5/2016	6:27:00 AM	50.2	57.3	38.2	52.2	56.4	50.3	58.2	76.1	-	55.0	58.5	-	40.1	42.9	38.5	62.6	66.3	59.1
7/5/2016	6:28:00 AM	53.2	57.8	51.7	53.8	56.6	50.9	54.9	65.0	-	55.0	57.1	-	40.3	45.6	38.3	61.5	64.0	59.4
7/5/2016	6:29:00 AM	52.6	56.3	51.0	55.0	61.4	52.1	50.4	55.8	-	55.3	57.2	-	42.0	46.2	39.2	62.9	65.6	60.3
7/5/2016	6:30:00 AM	51.9	52.8	50.9	58.2	66.6	52.2	51.2	64.2	-	54.4	56.6	-	41.5	49.2	39.2	61.4	63.9	59.2
7/5/2016	6:31:00 AM	58.6	80.6	51.2	54.3	60.8	49.9	51.5	62.5	-	56.0	59.9	-	41.7	48.4	39.4	61.5	64.7	59.2
7/5/2016	6:32:00 AM	52.5	56.2	51.3	59.2	68.8	51.5	49.5	57.2	-	57.3	66.9	-	41.8	48.9	38.5	62.0	64.0	59.3
7/5/2016	6:33:00 AM	52.4	55.9	51.0	64.3	73.1	51.9	50.5	54.9	-	56.3	61.8	-	41.6	53.3	39.0	63.0	65.6	61.5
7/5/2016	6:34:00 AM	52.9	58.1	51.3	59.2	67.4	53.2	50.8	53.9	-	55.0	59.4	-	41.9	58.3	38.4	62.6	64.8	60.9
7/5/2016	6:35:00 AM	52.9	56.0	51.5	55.4	61.0	52.2	51.7	59.9	-	55.7	66.1	-	41.6	53.8	38.9	62.7	64.6	61.0
7/5/2016	6:36:00 AM	52.2	56.0	51.2	63.6	71.5	54.3	51.0	66.0	-	55.3	64.7	-	41.9	45.9	39.5	62.1	63.7	60.6
7/5/2016	6:37:00 AM	52.5	57.5	50.7	62.0	73.2	52.3	50.7	60.0	-	55.8	68.8	-	40.5	45.2	38.6	62.5	65.2	60.5
7/5/2016	6:38:00 AM	52.6	55.5	51.3	65.8	74.4	53.9	50.2	64.2	-	55.3	67.7	-	41.3	51.0	38.9	64.9	70.1	61.1
7/5/2016	6:39:00 AM	52.7	58.0	51.2	60.3	68.8	51.8	54.7	71.1	-	54.7	58.1	-	42.3	46.4	39.5	63.1	68.1	60.2
7/5/2016	6:40:00 AM	52.7	55.1	51.3	56.6	64.8	52.5	50.3	64.8	-	55.5	63.8	-	43.4	60.5	39.1	62.4	64.8	59.8
7/5/2016	6:41:00 AM	52.6	58.5	51.4	58.7	65.4	52.9	49.4	58.0	-	59.4	74.4	-	42.6	49.2	39.2	63.0	65.1	61.1
7/5/2016	6:42:00 AM	52.3	54.0	51.4	62.4	70.5	52.1	53.0	70.2	-	52.5	56.3	-	42.3	47.5	39.3	64.6	70.1	60.8
7/5/2016	6:43:00 AM	50.1	56.3	41.8	60.5	69.3	51.5	50.8	64.8	-	54.6	64.3	-	41.8	46.1	38.5	62.5	65.3	59.9
7/5/2016	6:44:00 AM	47.1	53.0	41.2	60.8	69.1	50.4	49.4	56.5	-	53.3	59.0	-	41.4	46.7	39.2	63.0	65.8	60.2
7/5/2016	6:45:00 AM	47.8	52.0	41.7	63.5	72.2	50.0	53.9	70.4	-	54.1	57.8	-	47.4	57.4	40.0	63.1	65.2	60.7
7/5/2016	6:46:00 AM	48.3	54.2	42.3	61.7	69.2	50.8	51.5	59.7	-	52.5	56.8	-	42.4	56.3	38.9	62.5	65.0	59.2
7/5/2016	6:47:00 AM	52.1	57.4	41.7	56.2	65.0	49.0	53.0	61.6	-	52.9	55.6	-	42.1	57.0	39.6	62.8	64.9	61.1
7/5/2016	6:48:00 AM	53.9	64.1	51.7	56.1	64.8	48.8	51.4	55.7	-	53.4	67.3	-	42.0	54.1	39.4	62.1	63.9	59.9
7/5/2016	6:49:00 AM	52.6	56.4	51.2	63.5	71.4	48.5	49.7	54.8	-	51.4	54.7	-	43.2	48.1	40.2	63.7	68.4	61.0
7/5/2016	6:50:00 AM	53.9	66.0	51.7	52.9	61.0	49.9	48.9	53.3	-	53.0	56.7	-	42.1	48.4	39.2	63.6	66.2	61.2
7/5/2016	6:51:00 AM	53.3	61.4	51.2	64.8	74.9	49.9	50.0	54.2	-	54.3	60.1	-	49.0	68.3	38.7	63.1	65.9	60.1
7/5/2016	6:52:00 AM	52.0	61.9	51.0	61.4	69.6	52.2	48.5	51.7	-	54.6	58.4	-	40.3	43.3	38.4	63.2	65.5	61.1
7/5/2016	6:53:00 AM	53.6	59.2	51.0	62.8	72.1	49.8	49.2	54.6	-	54.7	58.3	-	41.0	53.0	38.9	63.1	66.3	60.8
7/5/2016	6:54:00 AM	53.5	60.6	51.6	57.6	67.8	49.7	49.6	63.5	-	54.4	57.7	-	46.4	69.0	39.7	63.5	70.9	60.7
7/5/2016	6:55:00 AM	53.3	56.1	51.6	58.9	68.2	50.8	49.1	54.9	-	55.2	66.9	-	65.1	81.4	39.9	63.7	65.8	61.9
7/5/2016	6:56:00 AM	53.9	58.0	52.1	61.3	69.5	51.7	49.7	54.9	-	55.9	59.4	-	60.0	79.3	39.6	63.5	68.6	61.1
7/5/2016	6:57:00 AM	53.8	56.6	52.5	65.5	76.6	52.3	49.3	51.5	-	56.5	61.8	-	44.3	56.0	40.6	65.3	70.5	61.0
7/5/2016	6:58:00 AM	54.4	61.5	52.8	60.5	69.4	53.0	48.8	51.8	-	55.5	57.6	-	43.2	51.1	39.2	64.0	72.5	60.6
7/5/2016	6:59:00 AM	54.4	59.3	52.6	59.2	68.3	51.8	48.2	53.9	-	56.3	61.3	-	43.4	48.1	40.8	63.4	65.8	61.4
7/5/2016	7:00:00 AM	53.2	58.7	49.7	61.7	69.0	52.8	50.3	60.5	-	57.5	63.2	-	50.1	69.0	40.5	63.3	66.2	61.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	7:01:00 AM	51.7	59.8	48.0	55.8	64.8	51.2	48.3	50.9	-	55.7	59.2	-	41.3	45.3	38.7	63.3	66.0	60.5
7/5/2016	7:02:00 AM	50.7	55.8	46.7	62.7	71.7	54.4	48.8	52.6	-	56.1	59.1	-	42.4	46.9	39.4	62.9	65.4	60.4
7/5/2016	7:03:00 AM	50.1	55.2	47.2	54.7	59.0	51.2	48.6	50.8	-	56.0	59.7	-	42.2	48.6	39.9	63.9	66.7	61.6
7/5/2016	7:04:00 AM	50.9	58.5	47.0	62.0	70.1	51.3	48.7	52.1	-	55.8	57.9	-	41.4	47.3	39.5	62.9	65.3	60.3
7/5/2016	7:05:00 AM	54.6	58.9	53.1	52.8	56.5	50.3	47.7	51.9	-	56.0	59.8	-	42.0	45.1	39.4	62.8	65.1	61.2
7/5/2016	7:06:00 AM	54.7	58.9	53.0	64.5	73.6	50.6	48.0	50.9	-	55.0	57.9	-	42.4	47.7	39.1	63.7	67.5	61.1
7/5/2016	7:07:00 AM	53.8	55.0	52.9	56.4	65.7	51.4	49.8	61.2	-	58.5	69.3	-	41.7	47.9	39.3	63.6	66.8	61.0
7/5/2016	7:08:00 AM	55.6	61.6	53.3	54.8	63.7	47.7	51.1	63.8	-	59.0	67.5	-	42.4	54.4	39.2	63.3	66.1	61.1
7/5/2016	7:09:00 AM	54.2	55.4	53.1	66.6	75.4	51.1	49.0	54.0	-	55.8	59.1	-	42.9	55.7	39.4	63.3	65.2	61.1
7/5/2016	7:10:00 AM	54.3	56.6	53.1	51.2	57.0	48.6	50.6	59.2	-	57.3	61.3	-	42.4	50.7	39.6	63.1	65.2	60.7
7/5/2016	7:11:00 AM	54.6	58.3	52.8	61.2	69.3	48.7	49.1	60.0	-	56.4	59.7	-	41.3	48.4	39.0	63.2	66.1	61.5
7/5/2016	7:12:00 AM	55.1	75.9	51.3	51.9	60.6	49.0	47.6	53.5	-	56.3	61.3	-	43.2	49.9	39.2	62.9	65.0	60.9
7/5/2016	7:13:00 AM	59.1	78.9	51.5	63.1	72.7	48.7	48.6	52.3	-	62.0	75.0	-	41.9	56.1	39.3	63.9	66.5	61.6
7/5/2016	7:14:00 AM	52.8	56.2	51.3	57.3	63.6	50.5	47.3	54.8	-	57.3	69.9	-	42.8	59.0	39.1	65.0	71.4	62.3
7/5/2016	7:15:00 AM	53.2	57.4	51.7	55.3	66.5	48.9	47.6	49.5	-	56.6	60.1	-	43.8	57.1	39.3	63.8	67.7	62.0
7/5/2016	7:16:00 AM	49.4	56.0	41.6	60.7	70.4	49.5	49.1	56.4	-	57.4	60.1	-	40.8	49.3	39.0	62.7	64.7	59.6
7/5/2016	7:17:00 AM	48.2	55.2	41.8	64.7	73.7	48.2	51.2	58.3	-	58.1	64.7	-	52.3	74.4	39.6	61.7	64.8	59.9
7/5/2016	7:18:00 AM	48.1	56.5	43.6	56.2	66.5	48.0	48.1	54.6	-	57.4	60.6	-	40.5	46.8	38.5	64.2	66.3	61.5
7/5/2016	7:19:00 AM	50.6	58.9	43.6	52.8	63.7	44.7	49.2	54.0	-	57.3	61.6	-	52.7	74.7	39.5	63.2	66.1	60.8
7/5/2016	7:20:00 AM	51.8	57.5	43.5	49.0	53.0	47.3	48.1	52.4	-	59.5	69.2	-	40.6	43.3	39.0	63.2	67.7	59.7
7/5/2016	7:21:00 AM	53.9	56.8	52.4	54.4	63.3	47.9	49.0	54.6	-	57.9	65.0	-	43.4	53.7	40.2	63.1	66.4	61.1
7/5/2016	7:22:00 AM	53.2	57.2	51.6	60.6	70.0	51.0	47.4	54.3	-	58.6	69.5	-	55.5	76.5	39.5	64.5	67.5	61.4
7/5/2016	7:23:00 AM	53.7	58.7	51.8	52.2	59.1	48.4	48.4	56.6	-	58.0	65.1	-	45.2	61.7	38.5	64.0	66.6	61.8
7/5/2016	7:24:00 AM	54.1	58.0	52.2	50.3	53.2	48.3	47.9	52.7	-	56.6	59.9	-	61.4	78.5	39.0	64.5	68.4	61.4
7/5/2016	7:25:00 AM	53.3	57.4	51.6	50.5	53.5	48.7	48.5	50.7	-	57.9	60.6	-	60.4	79.1	39.0	64.0	67.3	61.7
7/5/2016	7:26:00 AM	52.8	57.9	51.5	50.6	52.6	48.9	50.7	55.7	-	57.3	60.0	-	43.1	56.0	39.3	65.2	69.2	62.0
7/5/2016	7:27:00 AM	53.0	57.7	51.5	64.0	73.6	51.0	50.5	52.8	-	74.7	85.5	-	40.8	43.1	39.3	64.4	68.0	62.3
7/5/2016	7:28:00 AM	55.1	63.2	51.8	59.7	69.2	51.1	51.7	59.6	-	77.5	92.4	-	52.3	72.1	38.4	64.1	72.3	61.4
7/5/2016	7:29:00 AM	53.5	58.0	52.2	52.1	58.9	49.0	48.9	51.8	-	57.1	59.3	-	40.6	52.4	38.5	62.5	65.9	60.7
7/5/2016	7:30:00 AM	53.1	55.7	52.2	50.5	53.4	48.5	52.2	56.6	-	58.2	62.3	-	41.3	50.7	38.5	64.2	73.0	62.0
7/5/2016	7:31:00 AM	50.9	56.2	45.6	50.3	54.4	48.2	50.4	56.6	-	58.5	76.7	-	41.2	43.9	39.2	63.6	65.4	61.4
7/5/2016	7:32:00 AM	47.7	50.3	45.1	65.4	75.0	49.2	48.9	51.1	-	56.0	59.4	-	42.0	54.0	38.0	63.9	66.0	61.3
7/5/2016	7:33:00 AM	47.7	56.6	44.2	51.6	58.3	48.0	48.9	56.4	-	56.5	62.2	-	42.2	47.1	39.7	64.0	69.4	61.8
7/5/2016	7:34:00 AM	49.1	57.9	45.5	51.1	59.4	47.9	48.5	51.5	-	56.7	59.0	-	40.9	45.0	38.5	63.8	66.4	61.8
7/5/2016	7:35:00 AM	50.2	57.2	45.4	63.4	71.4	49.6	49.9	52.9	-	56.6	60.9	-	46.0	63.7	38.6	66.7	76.3	62.2
7/5/2016	7:36:00 AM	53.9	56.5	52.2	58.4	68.6	49.2	48.2	50.8	-	56.4	59.9	-	40.7	50.4	38.5	66.7	76.8	62.2
7/5/2016	7:37:00 AM	53.7	55.8	52.5	57.5	70.4	47.9	50.1	59.9	-	56.2	59.3	-	43.1	63.1	38.5	63.4	66.5	61.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	7:38:00 AM	54.0	58.8	52.5	58.7	72.9	48.0	51.2	60.9	-	55.8	58.6	-	57.6	76.8	39.0	64.1	67.3	61.3
7/5/2016	7:39:00 AM	53.3	56.4	52.3	66.8	77.0	53.9	50.7	59.3	-	56.8	58.6	-	55.2	73.3	39.2	65.8	78.4	62.0
7/5/2016	7:40:00 AM	55.1	58.9	52.3	52.0	55.8	48.5	49.6	52.9	-	57.7	67.6	-	55.3	72.4	39.1	64.9	68.1	61.7
7/5/2016	7:41:00 AM	53.9	56.7	52.2	62.1	71.0	48.7	48.7	52.4	-	57.3	60.5	-	41.9	46.2	39.4	65.7	74.3	62.6
7/5/2016	7:42:00 AM	54.0	57.2	52.6	51.2	58.7	47.3	50.6	53.2	-	57.4	63.2	-	42.7	46.3	39.9	65.4	68.7	63.8
7/5/2016	7:43:00 AM	53.6	55.7	52.2	54.1	63.8	49.1	50.9	54.3	-	58.1	61.9	-	42.7	48.9	40.4	65.1	68.3	62.5
7/5/2016	7:44:00 AM	53.0	55.6	51.8	50.2	52.1	48.3	52.1	55.8	-	58.9	71.9	-	45.2	66.7	39.9	66.1	69.2	63.1
7/5/2016	7:45:00 AM	52.6	54.3	51.6	52.3	61.0	48.1	52.1	56.0	-	60.5	71.9	-	61.1	83.0	40.1	66.1	68.9	63.9
7/5/2016	7:46:00 AM	50.3	57.0	43.8	50.4	54.2	47.9	55.8	70.6	-	57.6	60.5	-	42.0	46.7	39.9	65.7	68.5	62.4
7/5/2016	7:47:00 AM	45.9	49.5	43.8	50.8	53.1	48.4	52.2	55.6	-	57.9	60.4	-	42.9	55.3	40.4	65.6	67.7	63.4
7/5/2016	7:48:00 AM	46.8	53.3	43.5	52.2	65.3	47.9	50.2	54.0	-	58.8	68.8	-	42.9	52.5	40.5	66.0	68.6	64.0
7/5/2016	7:49:00 AM	46.3	50.5	43.9	60.0	67.9	50.3	49.9	54.0	-	57.5	60.5	-	41.9	52.0	40.1	66.1	69.1	63.4
7/5/2016	7:50:00 AM	51.4	57.7	44.6	52.1	56.7	49.1	50.1	52.1	-	57.5	60.9	-	41.6	44.9	39.6	65.8	68.2	63.2
7/5/2016	7:51:00 AM	54.0	57.1	52.2	64.2	72.8	48.1	50.2	52.9	-	61.1	70.4	-	41.4	45.2	39.8	65.9	68.9	63.4
7/5/2016	7:52:00 AM	55.0	68.6	51.9	57.2	67.0	50.6	50.4	52.4	-	57.4	66.9	-	41.4	46.7	39.7	65.1	68.1	62.9
7/5/2016	7:53:00 AM	69.1	85.0	52.4	55.3	67.6	48.9	50.6	53.9	-	57.9	66.3	-	42.1	47.6	39.7	65.5	67.5	63.5
7/5/2016	7:54:00 AM	52.9	54.3	51.9	63.3	73.8	51.9	52.2	56.2	-	59.7	63.8	-	41.7	49.7	39.8	66.3	69.5	62.7
7/5/2016	7:55:00 AM	53.0	56.7	51.9	62.4	73.7	49.2	55.9	61.2	-	59.3	64.6	-	54.9	66.8	40.4	67.5	70.4	62.9
7/5/2016	7:56:00 AM	53.1	55.7	52.1	54.6	60.4	49.9	50.9	53.1	-	60.9	70.4	-	54.9	68.2	40.7	68.0	70.5	66.3
7/5/2016	7:57:00 AM	54.4	59.8	52.5	51.5	59.8	48.8	52.5	59.0	-	59.2	68.8	-	42.8	47.1	40.6	67.3	70.1	63.2
7/5/2016	7:58:00 AM	53.4	56.6	52.0	52.0	56.6	49.0	51.6	56.7	-	60.3	65.5	-	42.3	45.2	40.7	67.2	74.0	63.9
7/5/2016	7:59:00 AM	53.1	55.5	52.0	53.7	61.3	47.9	51.6	54.5	-	59.1	66.5	-	41.7	46.9	40.2	68.5	70.7	66.0
7/5/2016	8:00:00 AM	53.5	65.1	51.9	64.5	74.9	54.3	52.0	56.9	-	59.5	63.0	-	42.4	48.9	40.7	68.3	70.6	66.4
7/5/2016	8:01:00 AM	53.3	60.1	51.7	55.5	66.8	49.8	52.1	56.1	-	59.8	64.1	-	43.4	52.5	39.9	68.2	70.5	66.2
7/5/2016	8:02:00 AM	49.3	57.8	44.2	53.2	57.2	50.9	50.6	53.7	-	60.1	62.8	-	41.1	44.7	39.7	68.2	70.1	66.2
7/5/2016	8:03:00 AM	46.6	60.6	42.9	53.9	60.0	49.6	51.5	58.0	-	60.9	63.1	-	41.4	43.3	39.4	67.2	70.4	63.7
7/5/2016	8:04:00 AM	47.5	53.4	42.8	60.4	70.6	51.2	52.1	59.7	-	61.3	64.3	-	41.7	52.1	39.6	67.7	71.4	65.5
7/5/2016	8:05:00 AM	51.8	58.7	44.9	55.4	62.7	51.4	53.6	58.4	-	62.8	85.1	-	41.5	46.2	39.9	67.4	69.6	65.8
7/5/2016	8:06:00 AM	58.7	66.1	48.3	60.7	68.5	50.6	52.3	55.9	-	59.5	62.1	-	43.6	51.5	39.8	67.1	69.7	63.9
7/5/2016	8:07:00 AM	58.3	68.6	52.9	53.7	57.2	50.5	48.8	50.9	-	59.4	62.3	-	43.1	59.6	39.4	67.3	69.5	65.7
7/5/2016	8:08:00 AM	54.9	59.0	52.1	52.4	54.4	50.4	49.1	52.7	-	60.1	63.3	-	41.7	45.7	40.2	67.1	68.9	65.8
7/5/2016	8:09:00 AM	52.8	54.0	51.9	53.5	60.8	50.0	51.0	57.2	-	59.3	61.5	-	42.4	47.3	40.4	67.3	68.9	65.7
7/5/2016	8:10:00 AM	53.0	55.2	51.8	59.0	68.3	50.4	52.3	56.8	-	61.1	64.9	-	43.0	47.8	39.5	67.6	70.4	65.8
7/5/2016	8:11:00 AM	52.9	54.6	51.9	52.6	56.9	49.7	49.2	51.9	-	59.4	64.1	-	41.6	49.9	39.6	67.2	69.3	63.9
7/5/2016	8:12:00 AM	52.9	58.3	51.7	53.2	58.1	49.8	51.7	59.1	-	59.7	63.3	-	42.5	46.0	40.2	66.8	70.4	63.4
7/5/2016	8:13:00 AM	53.3	57.6	51.7	61.8	71.7	50.3	50.2	52.9	-	60.7	67.3	-	42.2	44.9	40.7	65.3	68.6	63.4
7/5/2016	8:14:00 AM	53.0	57.4	51.9	62.2	71.4	51.7	50.6	55.1	-	62.4	71.9	-	42.2	44.3	39.9	65.5	70.4	63.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	8:15:00 AM	53.6	56.7	52.1	64.1	75.8	51.4	51.8	54.5	-	59.4	62.4	-	42.3	44.7	40.2	65.4	68.1	63.4
7/5/2016	8:16:00 AM	53.8	58.3	52.1	57.3	65.5	49.9	49.6	52.7	-	59.5	61.7	-	42.3	45.6	39.9	65.7	68.1	63.4
7/5/2016	8:17:00 AM	52.8	59.1	47.8	51.0	52.7	49.5	49.1	53.7	-	60.5	64.0	-	41.5	47.1	39.8	66.1	68.8	63.5
7/5/2016	8:18:00 AM	46.0	52.3	43.9	51.6	56.0	49.7	50.3	56.5	-	60.4	64.8	-	41.8	46.4	39.9	65.6	68.6	63.5
7/5/2016	8:19:00 AM	46.0	50.3	43.7	51.3	54.3	49.3	50.8	57.4	-	59.5	62.3	-	43.0	56.1	40.5	65.7	67.7	63.3
7/5/2016	8:20:00 AM	50.8	64.6	44.8	51.9	54.4	50.0	49.7	54.9	-	60.0	63.7	-	42.5	49.3	40.5	65.3	69.2	63.1
7/5/2016	8:21:00 AM	51.9	57.3	45.4	52.3	54.9	49.8	48.5	50.9	-	60.1	66.3	-	43.0	47.1	39.8	65.9	69.8	63.5
7/5/2016	8:22:00 AM	55.4	60.3	52.4	51.7	54.9	49.8	50.6	54.6	-	59.6	66.7	-	42.0	53.5	39.7	65.3	68.6	62.9
7/5/2016	8:23:00 AM	54.5	61.1	52.1	51.2	54.3	49.1	49.2	52.0	-	60.8	68.3	-	42.1	46.2	40.5	65.5	69.4	63.1
7/5/2016	8:24:00 AM	53.4	57.9	52.0	51.4	53.2	49.1	48.8	55.8	-	59.6	64.2	-	41.6	47.0	40.1	66.8	70.8	63.2
7/5/2016	8:25:00 AM	53.4	59.9	52.0	54.3	62.0	50.3	51.9	57.9	-	59.8	61.8	-	41.5	47.7	39.5	67.3	70.2	65.3
7/5/2016	8:26:00 AM	52.8	55.5	51.7	52.1	55.1	50.1	51.2	56.2	-	59.7	61.8	-	41.5	43.3	39.6	68.2	72.0	65.6
7/5/2016	8:27:00 AM	52.7	54.8	51.7	55.2	63.2	49.7	49.0	61.3	-	60.7	72.9	-	41.7	44.3	40.1	67.9	69.7	66.6
7/5/2016	8:28:00 AM	52.7	54.3	51.8	52.3	55.9	50.4	50.5	59.0	-	58.8	60.6	-	42.0	49.8	40.2	68.2	85.9	65.2
7/5/2016	8:29:00 AM	58.9	71.5	51.8	50.9	54.4	49.2	51.6	56.3	-	58.6	62.2	-	42.3	46.6	40.7	67.7	69.8	65.3
7/5/2016	8:30:00 AM	55.2	62.8	51.7	50.7	52.7	49.2	52.0	57.3	-	59.1	62.1	-	41.9	44.2	39.9	67.8	69.7	66.2
7/5/2016	8:31:00 AM	52.7	54.5	51.7	57.7	67.5	49.6	50.4	57.5	-	59.3	63.2	-	42.3	45.1	40.5	68.6	71.4	62.5
7/5/2016	8:32:00 AM	52.4	55.1	51.5	60.7	67.2	50.8	52.1	59.1	-	59.9	65.9	-	42.9	52.0	40.6	69.0	74.7	63.0
7/5/2016	8:33:00 AM	45.6	52.3	42.2	62.4	66.1	59.2	51.9	57.0	-	59.5	62.7	-	42.6	44.7	40.6	68.7	71.8	65.0
7/5/2016	8:34:00 AM	46.2	51.6	43.2	60.9	64.8	56.2	51.4	54.3	-	57.6	61.0	-	43.6	47.0	41.5	68.2	71.2	66.0
7/5/2016	8:35:00 AM	44.3	56.0	41.4	64.4	78.2	53.6	51.3	56.9	-	59.0	61.7	-	42.7	45.3	41.1	68.1	69.7	66.4
7/5/2016	8:36:00 AM	46.5	55.9	42.3	63.7	70.2	59.2	49.7	54.5	-	59.1	62.4	-	42.7	48.7	41.0	66.6	69.3	62.1
7/5/2016	8:37:00 AM	54.0	61.3	43.1	61.3	66.3	55.9	50.4	55.6	-	60.3	66.0	-	42.3	44.9	40.7	66.6	70.3	62.1
7/5/2016	8:38:00 AM	54.4	62.7	52.7	56.1	61.6	52.9	53.1	59.7	-	59.0	65.3	-	42.5	50.4	40.4	66.4	72.0	62.7
7/5/2016	8:39:00 AM	52.9	54.2	51.8	54.9	57.7	52.5	50.2	54.2	-	59.3	61.4	-	43.1	46.6	40.5	69.8	78.8	64.3
7/5/2016	8:40:00 AM	54.1	59.4	52.4	54.2	56.7	51.9	50.1	56.6	-	59.4	62.7	-	43.2	45.8	41.2	65.8	69.9	62.6
7/5/2016	8:41:00 AM	53.5	59.1	51.5	58.6	63.1	52.1	50.4	55.5	-	58.1	61.3	-	44.3	52.9	41.5	65.9	69.4	62.6
7/5/2016	8:42:00 AM	53.2	56.2	51.6	58.5	67.5	53.7	48.1	52.7	-	59.2	64.4	-	43.4	48.6	41.1	66.7	70.0	64.2
7/5/2016	8:43:00 AM	52.9	57.9	51.7	54.6	59.8	51.4	50.3	54.2	-	59.7	68.9	-	43.1	45.6	41.3	66.6	70.6	63.7
7/5/2016	8:44:00 AM	53.5	58.8	52.3	60.9	69.1	51.8	50.5	57.0	-	59.3	62.7	-	43.1	48.7	41.1	64.9	69.4	62.3
7/5/2016	8:45:00 AM	56.2	68.9	52.1	51.6	55.0	49.0	51.2	56.7	-	59.2	62.1	-	43.3	46.6	41.4	65.7	71.3	63.6
7/5/2016	8:46:00 AM	55.8	67.6	52.3	55.1	66.3	48.5	52.7	61.2	-	59.2	63.3	-	43.4	50.2	41.4	65.5	70.6	62.3
7/5/2016	8:47:00 AM	70.1	79.5	52.8	55.4	65.5	49.6	54.3	68.5	-	59.2	65.6	-	43.1	46.7	41.6	65.1	69.7	62.0
7/5/2016	8:48:00 AM	49.2	63.4	42.9	56.5	66.1	51.7	50.9	62.8	-	59.0	62.2	-	43.7	46.9	41.9	65.2	68.2	62.2
7/5/2016	8:49:00 AM	48.6	56.0	43.4	54.9	64.1	50.4	51.6	67.2	-	60.8	69.6	-	44.2	47.3	42.4	66.2	68.4	63.8
7/5/2016	8:50:00 AM	49.4	55.8	45.5	57.7	65.0	50.4	50.8	58.3	-	59.1	62.2	-	44.2	47.6	42.2	65.5	68.7	62.3
7/5/2016	8:51:00 AM	49.4	57.6	45.6	53.8	61.9	50.0	52.2	59.0	-	59.1	61.9	-	63.8	75.3	44.4	66.6	68.9	64.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	8:52:00 AM	54.1	61.6	45.9	52.9	55.6	49.7	54.2	60.1	-	59.0	61.4	-	50.3	60.8	41.9	65.6	68.4	62.9
7/5/2016	8:53:00 AM	53.9	57.2	52.4	53.9	57.4	50.7	53.7	59.1	-	59.0	62.1	-	43.5	45.8	41.8	65.2	71.0	61.6
7/5/2016	8:54:00 AM	54.6	58.3	53.0	52.3	56.9	49.9	54.2	59.4	-	58.4	61.4	-	44.0	50.9	42.0	65.1	67.6	61.3
7/5/2016	8:55:00 AM	53.7	58.3	51.8	51.3	55.4	48.6	54.0	60.8	-	58.5	61.8	-	52.8	61.4	42.4	65.7	70.5	61.2
7/5/2016	8:56:00 AM	53.1	54.7	51.8	53.5	60.5	49.6	52.1	64.2	-	59.3	62.9	-	48.0	55.2	43.2	65.6	75.0	60.9
7/5/2016	8:57:00 AM	53.8	64.9	52.1	58.5	68.9	49.2	54.2	58.4	-	60.1	71.4	-	43.9	46.4	42.1	66.0	70.5	62.1
7/5/2016	8:58:00 AM	53.7	56.2	52.5	58.7	68.1	51.7	54.9	61.3	-	59.0	64.5	-	44.0	52.8	42.1	65.6	70.0	61.7
7/5/2016	8:59:00 AM	54.1	59.6	52.3	62.9	72.7	53.3	54.4	62.1	-	59.4	66.6	-	44.4	47.8	43.0	65.8	69.6	62.7
7/5/2016	9:00:00 AM	54.3	60.0	51.9	63.4	72.6	53.9	54.3	60.8	-	58.6	60.5	-	44.6	54.4	42.6	65.0	69.5	60.6
7/5/2016	9:01:00 AM	54.1	57.1	52.2	53.9	61.1	48.8	55.5	59.9	-	59.4	69.2	-	44.8	52.6	42.8	65.3	68.9	62.0
7/5/2016	9:02:00 AM	54.4	60.4	52.4	57.1	64.9	50.9	55.5	60.6	-	58.2	62.4	-	44.8	49.8	42.8	65.4	69.7	61.7
7/5/2016	9:03:00 AM	54.2	57.2	52.4	52.1	56.0	50.3	54.5	61.0	-	57.2	58.9	-	45.7	57.4	42.8	64.7	76.8	61.5
7/5/2016	9:04:00 AM	54.0	60.9	52.5	52.9	58.7	49.2	52.7	57.5	-	59.4	65.0	-	46.1	49.4	42.8	66.4	75.0	62.5
7/5/2016	9:05:00 AM	53.7	56.2	48.5	53.3	60.3	49.9	53.4	60.4	-	59.7	62.3	-	46.7	55.8	44.2	65.7	69.1	61.3
7/5/2016	9:06:00 AM	50.5	57.1	46.8	51.1	54.0	49.2	54.1	60.4	-	62.4	73.4	-	46.2	50.7	43.8	65.2	69.1	62.0
7/5/2016	9:07:00 AM	51.0	62.0	48.1	51.3	59.1	49.3	56.5	60.3	-	60.1	63.2	-	45.3	48.1	43.5	65.3	68.5	63.2
7/5/2016	9:08:00 AM	51.6	69.9	47.1	56.7	64.1	50.4	55.3	60.2	-	60.2	65.0	-	45.9	49.2	43.5	65.6	68.1	62.9
7/5/2016	9:09:00 AM	59.1	70.4	46.6	60.3	71.1	51.6	54.7	62.2	-	60.4	64.2	-	46.6	50.2	43.8	66.3	70.1	62.8
7/5/2016	9:10:00 AM	61.0	71.6	54.0	55.4	62.0	50.0	51.0	55.9	-	59.8	64.0	-	45.9	49.6	43.4	65.7	70.5	61.4
7/5/2016	9:11:00 AM	54.2	58.3	52.3	51.4	53.2	49.5	53.7	61.3	-	59.9	62.0	-	46.5	52.5	44.2	66.2	71.1	61.8
7/5/2016	9:12:00 AM	58.2	69.7	52.6	51.8	56.3	49.2	55.3	63.2	-	59.6	62.7	-	46.2	50.4	43.8	66.3	70.3	62.7
7/5/2016	9:13:00 AM	56.9	74.9	53.1	52.9	61.5	49.7	54.8	59.6	-	60.0	63.8	-	47.4	52.3	43.7	66.1	73.0	62.4
7/5/2016	9:14:00 AM	53.8	58.2	49.0	54.1	62.4	49.6	53.6	60.9	-	59.6	62.9	-	47.3	56.6	44.0	65.9	69.3	61.9
7/5/2016	9:15:00 AM	51.5	58.1	48.6	55.6	62.0	49.8	57.5	67.2	-	60.0	66.4	-	48.1	52.1	44.2	67.6	73.9	63.4
7/5/2016	9:16:00 AM	51.7	58.3	48.6	55.0	60.4	51.0	53.3	61.4	-	59.7	67.0	-	47.8	54.4	44.4	66.3	70.2	62.5
7/5/2016	9:17:00 AM	50.3	57.1	47.9	52.9	59.9	49.8	53.0	58.5	-	58.9	61.4	-	48.0	53.3	44.4	65.3	69.7	62.3
7/5/2016	9:18:00 AM	50.2	52.9	47.7	53.7	62.7	49.4	54.5	61.3	-	58.5	60.8	-	48.1	53.5	44.0	65.9	69.1	62.3
7/5/2016	9:19:00 AM	52.1	57.6	49.6	53.0	59.6	50.2	56.3	62.6	-	59.6	67.7	-	46.7	52.0	43.2	66.1	69.5	63.4
7/5/2016	9:20:00 AM	52.6	57.7	48.8	52.9	56.0	50.8	53.9	67.2	-	59.3	67.7	-	46.1	50.7	42.1	66.7	71.3	63.2
7/5/2016	9:21:00 AM	52.5	56.3	49.5	54.4	59.4	50.8	51.7	56.7	-	59.6	69.9	-	48.1	54.7	43.6	65.9	69.4	62.9
7/5/2016	9:22:00 AM	52.5	60.7	50.6	54.1	57.7	50.1	54.9	60.8	-	58.3	65.5	-	47.1	53.5	43.1	65.3	68.2	62.6
7/5/2016	9:23:00 AM	52.2	67.1	46.7	55.6	59.0	52.4	55.6	62.7	-	58.5	61.2	-	48.4	54.7	44.0	65.9	70.1	62.9
7/5/2016	9:24:00 AM	50.2	55.5	46.4	53.8	56.3	50.7	53.5	57.8	-	58.6	61.8	-	47.0	54.0	43.4	66.4	70.2	64.0
7/5/2016	9:25:00 AM	51.2	58.8	48.6	53.6	60.7	49.2	57.3	67.2	-	59.3	64.9	-	46.4	51.3	43.1	66.2	70.1	63.0
7/5/2016	9:26:00 AM	51.7	57.7	47.2	58.9	68.8	51.3	56.7	67.0	-	58.4	61.9	-	46.6	52.7	43.5	67.3	71.5	61.6
7/5/2016	9:27:00 AM	50.9	55.7	47.6	51.8	54.5	50.0	53.5	58.7	-	59.3	62.5	-	46.2	52.5	43.0	66.1	70.3	62.3
7/5/2016	9:28:00 AM	51.3	58.4	46.5	54.4	64.9	49.8	53.5	57.8	-	58.9	63.7	-	46.2	51.1	43.1	65.5	69.9	61.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	9:29:00 AM	53.3	60.7	48.1	50.6	52.3	49.0	51.9	57.0	-	59.0	62.3	-	47.0	52.6	43.3	65.9	72.6	62.9
7/5/2016	9:30:00 AM	52.6	61.6	47.3	52.9	60.7	49.1	55.0	63.6	-	59.4	63.6	-	46.2	52.9	42.8	66.4	70.9	63.6
7/5/2016	9:31:00 AM	49.9	53.8	46.8	51.7	55.7	49.0	57.0	65.8	-	58.3	61.5	-	46.7	53.5	43.6	66.0	69.6	62.1
7/5/2016	9:32:00 AM	47.9	54.1	45.6	54.4	60.5	50.8	54.2	59.3	-	59.4	66.6	-	47.0	53.1	43.5	66.0	70.8	62.4
7/5/2016	9:33:00 AM	48.7	54.3	45.8	57.2	66.7	51.4	53.3	58.7	-	60.4	67.2	-	47.0	54.2	43.3	84.0	100.6	64.4
7/5/2016	9:34:00 AM	50.7	57.0	47.5	54.2	62.0	49.4	51.3	56.9	-	60.3	67.9	-	46.6	55.9	43.2	66.3	70.5	62.6
7/5/2016	9:35:00 AM	61.3	74.1	47.0	53.3	60.4	50.1	53.5	57.0	-	59.1	62.4	-	46.3	52.6	43.1	66.6	71.1	61.1
7/5/2016	9:36:00 AM	49.0	56.4	46.4	57.6	65.3	52.3	53.0	58.2	-	59.2	62.6	-	46.6	54.6	43.1	65.9	69.3	62.1
7/5/2016	9:37:00 AM	50.4	60.1	47.8	54.7	63.0	50.3	53.1	60.9	-	58.9	61.7	-	47.2	54.7	43.2	65.6	69.3	61.4
7/5/2016	9:38:00 AM	59.3	73.7	48.1	56.9	65.6	51.2	51.6	63.7	-	58.2	62.7	-	47.0	55.1	43.0	66.4	69.9	62.6
7/5/2016	9:39:00 AM	49.7	55.3	48.0	54.2	60.7	50.3	52.9	58.1	-	57.7	60.4	-	47.1	54.1	43.2	65.3	69.9	61.5
7/5/2016	9:40:00 AM	49.6	52.7	47.3	58.3	69.7	50.4	55.4	66.0	-	59.5	67.2	-	46.3	52.6	42.8	66.5	71.4	62.0
7/5/2016	9:41:00 AM	49.1	53.2	47.0	53.8	61.0	50.3	56.6	65.5	-	59.7	67.3	-	47.4	55.7	43.0	66.8	70.4	63.2
7/5/2016	9:42:00 AM	52.4	57.7	48.3	51.8	56.4	49.9	54.9	63.7	-	60.5	71.1	-	47.1	55.4	43.5	65.8	70.2	62.8
7/5/2016	9:43:00 AM	53.7	56.3	52.5	51.7	56.0	49.9	55.4	61.5	-	59.3	64.2	-	46.4	52.9	42.8	65.4	69.1	61.9
7/5/2016	9:44:00 AM	54.6	58.0	53.0	53.8	58.6	51.2	55.0	61.3	-	59.8	65.4	-	46.6	53.2	43.1	66.1	70.5	63.2
7/5/2016	9:45:00 AM	54.5	57.7	46.8	54.8	62.0	51.8	54.7	62.8	-	59.6	68.4	-	45.8	50.6	42.6	66.8	75.9	62.8
7/5/2016	9:46:00 AM	54.3	64.5	46.5	53.1	55.0	51.5	55.0	61.9	-	58.5	60.3	-	46.5	52.1	42.9	65.8	71.5	61.9
7/5/2016	9:47:00 AM	50.6	61.6	45.1	53.5	57.9	51.3	51.7	60.5	-	58.6	61.7	-	45.2	51.7	42.6	66.6	71.3	63.0
7/5/2016	9:48:00 AM	46.4	49.3	44.2	53.8	63.9	50.7	54.2	59.1	-	58.5	62.1	-	45.4	51.1	42.2	66.2	70.3	62.2
7/5/2016	9:49:00 AM	61.7	84.8	44.4	55.4	63.7	50.3	53.8	61.3	-	59.9	64.1	-	45.2	52.9	42.9	65.6	69.2	62.6
7/5/2016	9:50:00 AM	47.9	56.3	44.5	59.8	70.6	51.3	51.2	56.6	-	59.9	62.3	-	45.6	52.4	42.3	66.4	71.6	62.3
7/5/2016	9:51:00 AM	47.5	53.8	44.7	57.5	66.1	51.7	57.7	69.4	-	58.9	61.8	-	46.2	56.3	42.4	66.0	69.3	62.7
7/5/2016	9:52:00 AM	50.7	58.4	46.8	55.5	61.4	50.4	57.2	71.6	-	59.3	62.8	-	46.1	52.6	43.0	66.2	70.4	62.9
7/5/2016	9:53:00 AM	49.5	54.2	46.9	56.7	61.7	52.2	56.5	63.2	-	58.8	61.3	-	46.7	54.8	42.9	66.1	69.5	62.5
7/5/2016	9:54:00 AM	50.7	57.3	47.1	56.1	62.3	52.3	54.0	60.8	-	59.3	64.0	-	50.2	59.1	42.8	66.5	69.4	62.6
7/5/2016	9:55:00 AM	49.3	53.9	46.4	60.3	66.4	55.1	53.2	58.5	-	59.4	63.5	-	45.7	53.1	42.8	66.5	70.7	62.9
7/5/2016	9:56:00 AM	50.9	58.0	47.1	59.7	67.8	53.1	54.8	63.5	-	59.8	70.1	-	45.1	51.3	42.3	66.5	70.6	63.3
7/5/2016	9:57:00 AM	53.1	55.4	52.1	56.3	62.2	53.6	53.2	58.3	-	59.2	67.8	-	44.9	53.1	42.1	65.5	69.6	62.3
7/5/2016	9:58:00 AM	54.0	59.0	52.8	58.0	65.5	51.2	52.2	57.4	-	58.7	61.3	-	44.8	49.5	41.9	65.9	71.1	63.3
7/5/2016	9:59:00 AM	54.2	56.8	53.0	56.6	64.6	52.2	53.4	62.7	-	59.3	65.2	-	44.8	50.2	42.1	66.5	69.6	63.5
7/5/2016	10:00:00 AM	52.6	57.5	48.1	53.4	58.3	50.7	51.9	57.5	-	58.7	64.7	-	44.5	49.5	42.0	67.7	78.8	62.5
7/5/2016	10:01:00 AM	49.2	55.6	46.0	54.2	58.2	50.8	51.2	58.9	-	58.3	60.3	-	44.5	52.2	41.8	66.7	74.5	63.0
7/5/2016	10:02:00 AM	48.7	52.8	46.4	59.7	69.8	53.9	54.3	62.0	-	58.2	60.6	-	44.7	50.6	42.2	67.4	71.2	62.5
7/5/2016	10:03:00 AM	48.6	54.6	44.4	58.1	62.3	53.6	55.8	63.3	-	58.9	65.2	-	45.2	49.6	42.4	66.1	69.8	61.8
7/5/2016	10:04:00 AM	47.1	53.4	43.4	55.5	60.2	52.6	52.9	60.2	-	58.3	61.5	-	45.1	49.9	42.9	66.4	72.8	62.3
7/5/2016	10:05:00 AM	48.0	51.7	44.9	59.8	65.3	53.7	54.8	62.2	-	58.5	65.8	-	45.0	50.8	42.7	65.9	71.2	62.1

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	10:06:00 AM	51.6	59.1	45.7	67.6	73.7	61.4	55.9	63.3	-	58.7	62.2	-	45.3	51.5	42.7	66.2	70.0	61.6
7/5/2016	10:07:00 AM	49.9	63.4	44.7	57.6	64.4	54.7	56.5	62.2	-	58.8	61.3	-	45.8	50.4	43.1	65.9	70.1	61.8
7/5/2016	10:08:00 AM	49.5	54.2	45.6	55.9	59.4	52.1	53.4	59.1	-	59.4	65.9	-	46.3	52.1	43.3	66.4	70.9	60.2
7/5/2016	10:09:00 AM	48.8	60.1	43.6	55.2	62.5	51.3	52.6	60.5	-	58.9	63.0	-	48.8	55.3	43.3	66.6	70.7	62.8
7/5/2016	10:10:00 AM	53.5	64.3	47.1	56.4	59.6	53.2	57.4	63.9	-	58.6	63.0	-	45.2	50.5	42.7	66.7	71.7	61.6
7/5/2016	10:11:00 AM	54.6	56.0	52.8	56.5	62.0	53.7	55.7	63.2	-	56.9	60.2	-	45.9	51.8	43.2	67.8	72.8	63.5
7/5/2016	10:12:00 AM	55.2	67.6	53.6	58.3	66.8	53.9	59.9	79.5	-	57.7	60.4	-	53.7	62.6	45.9	66.7	70.7	62.9
7/5/2016	10:13:00 AM	55.6	66.3	53.5	57.8	61.4	54.3	61.0	74.6	-	58.7	62.8	-	65.3	73.3	50.3	66.4	70.1	62.3
7/5/2016	10:14:00 AM	56.2	71.2	46.2	58.6	64.0	53.9	55.2	71.7	-	57.7	61.3	-	59.0	69.8	45.3	67.6	71.6	63.1
7/5/2016	10:15:00 AM	50.4	61.9	45.1	59.8	70.3	52.7	64.2	78.6	-	58.7	64.5	-	45.3	49.5	43.5	68.1	77.2	64.0
7/5/2016	10:16:00 AM	48.9	57.4	46.2	60.7	68.0	55.0	66.2	80.4	-	58.4	61.4	-	44.9	48.1	43.2	67.7	75.9	64.1
7/5/2016	10:17:00 AM	51.2	59.6	47.3	57.1	62.5	53.4	64.3	75.1	-	58.5	63.2	-	45.1	48.5	42.9	67.5	73.6	63.1
7/5/2016	10:18:00 AM	51.1	54.2	47.7	60.9	67.7	56.4	64.7	81.2	-	59.0	68.3	-	44.6	49.5	42.2	67.3	76.1	63.7
7/5/2016	10:19:00 AM	49.2	55.3	46.3	63.8	71.2	56.0	55.4	59.4	-	59.0	72.1	-	44.7	51.8	42.2	65.8	69.8	62.3
7/5/2016	10:20:00 AM	57.4	66.3	49.0	61.1	66.0	55.6	57.8	66.5	-	58.3	62.5	-	44.9	49.5	42.8	66.0	68.9	62.9
7/5/2016	10:21:00 AM	49.2	53.4	46.5	56.9	60.6	53.8	57.0	67.6	-	60.2	65.2	-	44.9	48.3	42.6	65.9	69.5	62.1
7/5/2016	10:22:00 AM	50.1	58.3	45.9	58.6	65.4	53.5	61.3	75.1	-	59.2	62.9	-	45.5	49.3	42.8	66.9	69.9	61.6
7/5/2016	10:23:00 AM	49.9	58.5	46.1	55.7	60.0	52.8	56.5	67.5	-	58.3	61.3	-	44.6	49.2	42.7	66.4	71.6	62.1
7/5/2016	10:24:00 AM	52.3	57.8	44.4	56.5	61.5	53.5	49.8	56.7	-	58.1	60.5	-	53.3	63.1	43.6	67.3	72.1	62.3
7/5/2016	10:25:00 AM	54.4	56.1	52.6	58.1	65.2	54.5	51.8	57.3	-	57.6	59.6	-	50.3	63.7	41.5	66.4	73.0	63.2
7/5/2016	10:26:00 AM	55.0	56.8	53.7	58.9	64.4	54.1	52.0	58.0	-	58.2	66.3	-	54.8	75.1	43.7	67.1	70.9	63.3
7/5/2016	10:27:00 AM	54.5	57.0	53.0	59.9	66.0	55.0	53.5	58.6	-	57.9	61.0	-	45.9	52.2	42.9	66.8	72.4	62.9
7/5/2016	10:28:00 AM	52.6	57.4	48.4	56.1	61.9	52.7	54.6	60.0	-	58.0	61.6	-	45.1	52.6	42.7	66.9	71.3	63.0
7/5/2016	10:29:00 AM	48.8	54.6	45.4	56.7	61.2	52.6	53.1	60.5	-	58.7	61.9	-	46.9	53.0	44.5	66.4	70.5	61.9
7/5/2016	10:30:00 AM	47.9	53.1	45.4	57.1	65.2	53.6	52.6	60.4	-	58.8	62.5	-	47.3	51.8	44.5	66.0	70.8	62.2
7/5/2016	10:31:00 AM	50.7	54.7	47.0	57.1	61.1	54.4	54.2	60.8	-	59.2	61.6	-	49.4	55.3	45.0	66.5	70.8	61.6
7/5/2016	10:32:00 AM	50.7	56.4	47.8	56.9	62.6	52.1	52.4	57.7	-	58.8	62.9	-	63.4	71.1	48.8	66.6	70.2	61.8
7/5/2016	10:33:00 AM	51.3	57.6	46.5	53.1	56.2	50.2	54.2	67.5	-	58.7	63.6	-	53.1	63.1	44.7	66.4	71.2	61.3
7/5/2016	10:34:00 AM	64.1	77.8	45.3	56.8	63.7	52.5	58.6	69.8	-	58.4	61.5	-	54.7	63.2	44.2	66.9	71.4	63.4
7/5/2016	10:35:00 AM	50.9	56.3	45.7	53.5	58.0	51.0	61.1	67.8	-	58.3	61.9	-	48.7	56.7	43.6	66.4	70.9	62.1
7/5/2016	10:36:00 AM	50.0	58.6	46.3	54.4	60.9	51.5	54.4	59.6	-	58.6	62.4	-	45.7	52.2	43.7	66.6	70.5	63.4
7/5/2016	10:37:00 AM	60.1	70.7	46.7	62.1	74.2	52.6	52.3	57.6	-	58.8	65.3	-	46.1	51.3	43.9	66.8	70.5	61.9
7/5/2016	10:38:00 AM	60.2	69.6	53.3	56.9	65.1	52.7	55.5	66.1	-	58.8	61.2	-	45.7	49.8	43.6	66.4	72.6	63.0
7/5/2016	10:39:00 AM	57.2	66.3	53.8	55.4	61.0	51.2	54.5	58.3	-	59.2	66.0	-	45.8	50.6	43.3	66.7	71.4	61.9
7/5/2016	10:40:00 AM	54.7	56.7	53.5	55.8	64.3	50.1	56.8	60.9	-	57.7	60.0	-	46.1	50.6	43.7	67.1	74.2	63.1
7/5/2016	10:41:00 AM	53.8	57.5	48.5	55.6	63.8	50.1	56.2	62.8	-	58.3	61.5	-	51.8	64.6	43.3	66.1	71.8	62.1
7/5/2016	10:42:00 AM	47.8	57.4	44.2	57.6	64.2	52.2	53.4	62.0	-	64.3	80.3	-	51.0	63.9	43.8	66.8	71.3	62.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	10:43:00 AM	48.3	52.3	44.7	65.3	71.2	55.5	53.3	58.6	-	58.8	61.3	-	49.5	55.7	44.7	66.2	70.6	61.1
7/5/2016	10:44:00 AM	52.3	59.1	47.6	58.0	64.1	51.1	55.0	64.9	-	59.5	65.8	-	50.7	57.9	45.0	65.9	69.9	63.0
7/5/2016	10:45:00 AM	53.4	60.3	46.5	56.1	64.9	51.3	59.9	68.9	-	58.9	63.9	-	66.0	73.2	52.0	66.6	71.0	62.3
7/5/2016	10:46:00 AM	47.5	49.9	45.3	57.9	69.4	51.1	59.1	68.9	-	58.4	62.7	-	55.0	67.6	44.0	66.5	72.7	62.0
7/5/2016	10:47:00 AM	53.5	69.0	45.7	59.0	68.5	52.6	60.8	71.8	-	58.7	65.7	-	45.2	54.8	42.7	65.9	69.5	62.2
7/5/2016	10:48:00 AM	56.2	69.0	44.6	60.5	65.9	54.8	61.4	69.1	-	57.8	62.9	-	45.9	55.8	43.1	66.6	69.8	63.2
7/5/2016	10:49:00 AM	50.4	58.1	45.9	56.3	60.6	53.3	55.2	62.6	-	58.4	62.3	-	46.6	59.3	43.2	66.1	69.3	63.0
7/5/2016	10:50:00 AM	53.7	58.0	46.8	58.1	67.0	51.2	54.3	62.5	-	60.5	66.4	-	45.5	54.0	43.2	66.3	70.5	63.8
7/5/2016	10:51:00 AM	54.6	56.8	52.9	61.4	71.9	54.6	52.0	58.7	-	58.5	61.1	-	45.2	52.8	42.8	66.3	69.9	62.2
7/5/2016	10:52:00 AM	59.6	68.3	53.8	59.3	68.4	53.3	54.8	61.5	-	59.1	61.7	-	45.4	51.1	43.2	66.1	68.8	62.6
7/5/2016	10:53:00 AM	55.0	59.8	53.4	54.2	61.1	50.6	56.1	63.3	-	59.5	68.3	-	45.1	51.9	42.6	67.1	76.2	62.7
7/5/2016	10:54:00 AM	59.6	67.4	45.8	56.9	63.9	52.7	52.9	59.5	-	58.3	61.2	-	45.5	51.3	43.3	66.8	71.3	62.7
7/5/2016	10:55:00 AM	48.4	57.7	45.2	57.6	64.0	53.6	54.5	60.8	-	59.8	64.2	-	45.4	51.0	43.2	66.7	71.6	63.0
7/5/2016	10:56:00 AM	47.4	54.6	44.6	55.5	59.6	53.3	54.7	61.8	-	61.3	71.8	-	46.0	53.0	43.6	66.6	70.8	61.5
7/5/2016	10:57:00 AM	48.7	54.7	46.2	56.0	63.2	52.6	53.3	60.1	-	66.8	81.7	-	46.4	52.2	44.2	65.8	70.9	62.4
7/5/2016	10:58:00 AM	49.3	56.6	46.2	58.9	65.4	53.1	53.7	62.0	-	59.0	64.4	-	51.4	61.3	45.5	66.4	70.6	61.3
7/5/2016	10:59:00 AM	50.3	54.1	46.3	53.7	58.5	50.6	60.5	84.3	-	58.3	67.4	-	64.7	72.1	51.3	65.8	70.2	60.2
7/5/2016	11:00:00 AM	49.4	55.2	46.3	52.7	57.8	50.1	52.3	59.6	-	58.3	61.4	-	59.0	69.8	48.1	67.1	71.9	62.5
7/5/2016	11:01:00 AM	48.9	52.1	46.3	55.9	63.8	51.2	64.7	80.9	-	59.5	64.5	-	47.7	60.0	43.3	66.3	72.1	59.9
7/5/2016	11:02:00 AM	51.1	58.0	46.1	55.9	62.3	52.0	62.1	69.2	-	58.5	61.8	-	45.6	49.9	43.7	66.4	71.4	61.5
7/5/2016	11:03:00 AM	54.7	57.6	52.5	54.8	59.1	51.5	56.0	63.6	-	59.4	62.6	-	45.5	49.7	43.4	66.0	71.0	61.3
7/5/2016	11:04:00 AM	55.4	64.0	53.9	58.8	64.1	54.3	54.0	61.4	-	57.8	59.9	-	44.9	48.5	42.8	66.6	70.1	62.3
7/5/2016	11:05:00 AM	59.3	65.0	53.9	54.5	59.0	51.8	52.5	59.3	-	57.5	60.8	-	45.4	53.6	43.4	66.6	71.2	62.2
7/5/2016	11:06:00 AM	54.3	58.4	53.1	63.8	72.2	51.2	51.8	59.4	-	58.5	61.0	-	45.8	52.4	43.1	66.3	71.1	61.9
7/5/2016	11:07:00 AM	51.6	57.5	46.4	63.0	70.1	55.0	51.3	55.8	-	58.9	61.8	-	46.3	53.3	43.1	65.9	70.3	62.3
7/5/2016	11:08:00 AM	50.0	53.4	45.8	65.7	74.0	54.8	53.9	61.1	-	59.7	65.3	-	46.0	50.4	43.8	65.8	69.7	61.9
7/5/2016	11:09:00 AM	56.1	77.0	46.8	56.5	65.4	51.7	52.3	59.1	-	58.3	64.6	-	46.5	51.6	44.2	66.5	71.4	61.4
7/5/2016	11:10:00 AM	51.5	63.4	46.1	56.1	59.9	51.6	53.4	64.5	-	57.6	63.3	-	46.8	53.8	44.7	66.4	71.8	61.2
7/5/2016	11:11:00 AM	46.6	55.1	44.3	56.0	64.5	50.7	55.0	61.6	-	58.7	67.5	-	47.7	52.3	44.2	66.5	71.6	62.3
7/5/2016	11:12:00 AM	50.2	53.8	47.5	54.1	57.6	52.0	52.6	58.2	-	58.1	61.0	-	46.4	50.0	43.9	66.9	71.1	61.2
7/5/2016	11:13:00 AM	49.4	59.3	45.7	54.6	61.4	50.1	58.7	66.7	-	59.0	65.1	-	45.5	49.5	43.3	66.9	74.2	63.9
7/5/2016	11:14:00 AM	51.8	66.2	46.2	57.5	67.8	51.8	53.6	58.5	-	60.0	68.0	-	46.1	50.5	43.8	66.8	70.9	62.3
7/5/2016	11:15:00 AM	56.2	68.5	48.0	54.1	58.7	52.0	55.1	67.9	-	58.4	60.7	-	44.9	48.4	42.7	66.2	69.5	59.7
7/5/2016	11:16:00 AM	53.9	58.3	52.9	54.7	57.9	52.2	53.1	62.3	-	58.2	61.3	-	44.9	54.1	42.3	66.1	70.3	62.0
7/5/2016	11:17:00 AM	54.2	59.6	52.7	53.6	56.6	51.4	53.0	60.3	-	58.5	63.8	-	45.1	52.6	42.9	66.3	69.8	61.8
7/5/2016	11:18:00 AM	53.7	56.6	52.4	55.4	59.3	52.3	51.8	59.9	-	57.7	60.2	-	45.5	56.1	42.6	66.3	70.4	62.1
7/5/2016	11:19:00 AM	51.9	57.9	46.3	59.3	63.6	52.8	68.4	90.5	-	57.4	63.5	-	45.8	52.5	42.7	66.7	70.2	63.1

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	11:20:00 AM	51.9	61.8	47.3	54.7	60.8	51.8	72.8	92.0	-	58.0	62.2	-	44.7	48.7	42.9	67.2	71.6	63.1
7/5/2016	11:21:00 AM	48.0	60.1	44.1	55.9	63.2	50.9	72.7	90.7	-	58.7	62.5	-	45.0	51.0	43.1	66.6	71.4	62.4
7/5/2016	11:22:00 AM	54.6	71.2	46.1	55.9	59.8	51.7	66.9	88.5	-	58.5	68.1	-	45.1	49.8	43.1	67.2	71.4	62.9
7/5/2016	11:23:00 AM	65.9	84.8	58.9	60.1	69.3	53.6	66.3	82.8	-	57.4	60.0	-	45.0	48.0	43.2	67.0	73.9	61.9
7/5/2016	11:24:00 AM	63.9	76.8	60.3	53.1	55.9	50.8	66.2	88.2	-	59.0	68.7	-	44.9	48.8	42.3	66.3	70.9	60.7
7/5/2016	11:25:00 AM	60.9	76.6	47.6	55.5	61.0	51.1	60.2	68.8	-	58.7	64.1	-	44.8	48.1	42.4	66.6	70.5	61.6
7/5/2016	11:26:00 AM	49.7	56.6	46.2	55.7	58.6	52.6	53.6	66.1	-	58.6	63.0	-	44.6	48.9	42.4	67.0	71.8	58.4
7/5/2016	11:27:00 AM	53.4	61.3	47.6	55.1	61.7	50.7	50.8	53.7	-	59.0	63.2	-	44.5	48.1	42.3	65.9	76.5	61.8
7/5/2016	11:28:00 AM	53.5	58.4	52.3	57.4	62.9	51.0	52.1	56.8	-	64.4	80.7	-	45.8	50.4	42.6	66.7	74.2	62.4
7/5/2016	11:29:00 AM	53.9	55.2	53.0	55.4	61.4	52.0	50.9	53.8	-	57.7	60.6	-	45.4	50.2	42.9	67.5	75.7	64.0
7/5/2016	11:30:00 AM	61.7	70.9	53.6	55.2	60.1	51.7	52.0	55.0	-	57.3	59.0	-	48.9	58.6	43.6	66.9	71.5	62.9
7/5/2016	11:31:00 AM	55.0	61.9	52.9	54.6	57.7	52.5	50.8	53.5	-	58.0	62.6	-	46.4	53.0	43.1	67.1	73.0	63.3
7/5/2016	11:32:00 AM	49.3	60.6	45.6	54.1	56.7	51.6	53.2	66.4	-	58.6	62.4	-	44.7	48.8	42.7	66.3	71.9	61.8
7/5/2016	11:33:00 AM	48.0	51.2	45.5	57.3	68.5	51.0	49.7	55.5	-	57.9	62.9	-	45.5	49.7	43.2	66.4	69.9	62.4
7/5/2016	11:34:00 AM	51.7	66.6	45.6	55.8	60.0	51.7	50.8	54.0	-	58.6	62.6	-	44.8	48.1	42.4	66.7	71.6	62.3
7/5/2016	11:35:00 AM	49.3	60.5	46.2	60.0	65.0	55.0	50.9	58.0	-	58.1	61.4	-	44.6	50.3	42.8	66.3	70.1	61.1
7/5/2016	11:36:00 AM	51.1	60.4	47.2	60.5	68.6	54.4	51.8	55.5	-	59.0	65.7	-	44.6	47.9	42.4	67.1	71.8	62.5
7/5/2016	11:37:00 AM	52.4	60.3	47.0	62.9	71.6	53.4	51.9	59.8	-	58.9	64.6	-	45.6	49.1	42.8	67.5	72.9	63.8
7/5/2016	11:38:00 AM	51.5	57.1	48.1	54.2	58.4	51.1	51.2	54.5	-	58.9	66.1	-	45.0	47.7	42.7	66.3	70.6	62.2
7/5/2016	11:39:00 AM	53.4	58.0	49.2	55.4	61.0	51.4	53.5	67.3	-	57.5	60.7	-	45.1	56.7	43.1	66.4	69.8	61.7
7/5/2016	11:40:00 AM	56.6	67.8	53.5	57.0	63.9	52.2	50.2	54.3	-	58.1	61.6	-	44.9	50.8	42.8	67.0	71.1	63.3
7/5/2016	11:41:00 AM	55.2	58.4	53.5	67.9	73.8	59.2	52.7	59.9	-	58.0	62.1	-	44.2	47.0	42.6	67.4	72.3	61.5
7/5/2016	11:42:00 AM	57.6	66.6	53.7	71.2	78.3	60.4	51.0	56.3	-	57.1	60.6	-	45.1	49.8	42.9	66.9	72.6	62.3
7/5/2016	11:43:00 AM	54.4	57.1	53.2	65.1	68.8	59.1	52.5	54.5	-	57.1	60.2	-	44.9	48.5	43.1	67.9	72.8	64.1
7/5/2016	11:44:00 AM	51.8	57.6	48.2	63.4	69.1	56.7	53.4	56.2	-	56.0	64.5	-	45.7	50.7	43.5	66.7	71.8	61.4
7/5/2016	11:45:00 AM	56.0	77.5	47.5	63.2	67.9	56.6	52.0	55.8	-	56.8	62.1	-	44.6	48.2	42.2	67.5	72.6	63.8
7/5/2016	11:46:00 AM	50.4	58.2	47.6	60.4	65.2	54.7	50.7	54.0	-	57.7	60.8	-	44.6	49.5	41.7	66.4	71.9	62.2
7/5/2016	11:47:00 AM	51.4	66.8	47.9	58.7	64.9	54.0	53.7	58.9	-	56.7	60.0	-	44.8	49.1	42.7	66.7	70.6	61.9
7/5/2016	11:48:00 AM	52.0	59.3	47.6	57.0	62.2	53.1	53.0	59.4	-	57.1	60.6	-	45.5	49.2	42.8	66.9	71.5	62.1
7/5/2016	11:49:00 AM	53.6	63.1	45.4	57.8	62.9	53.9	54.4	64.4	-	57.6	60.1	-	45.8	48.9	43.4	66.6	70.4	62.0
7/5/2016	11:50:00 AM	52.3	73.3	45.6	56.7	62.7	52.5	51.8	59.6	-	57.6	61.1	-	44.9	48.6	42.8	66.4	69.4	61.9
7/5/2016	11:51:00 AM	52.6	57.9	46.7	56.2	62.0	51.8	50.8	56.3	-	58.0	61.0	-	45.0	49.1	42.8	66.5	70.8	62.4
7/5/2016	11:52:00 AM	53.4	54.8	52.4	59.9	66.9	54.2	51.7	53.9	-	58.3	62.0	-	45.3	48.5	43.5	66.9	71.9	62.0
7/5/2016	11:53:00 AM	54.9	60.7	53.0	56.8	62.0	52.6	50.5	57.5	-	58.8	63.7	-	44.9	51.4	42.6	66.1	70.3	63.3
7/5/2016	11:54:00 AM	56.1	65.2	53.1	58.1	67.5	54.0	52.0	55.3	-	58.7	64.1	-	44.9	48.1	42.8	66.9	69.1	64.0
7/5/2016	11:55:00 AM	56.7	70.1	53.0	55.4	61.0	52.7	52.2	54.9	-	57.7	60.2	-	44.7	51.1	42.6	66.4	69.4	63.6
7/5/2016	11:56:00 AM	55.8	77.0	44.5	61.2	70.9	52.5	51.8	57.5	-	58.3	60.9	-	44.0	47.3	41.8	66.4	71.0	62.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	11:57:00 AM	54.8	66.3	45.1	60.9	71.9	55.0	52.7	60.8	-	59.1	63.8	-	45.0	48.7	42.9	66.2	71.5	61.4
7/5/2016	11:58:00 AM	62.2	74.4	48.5	56.7	61.9	52.4	52.4	64.9	-	58.0	64.9	-	44.5	53.9	42.0	66.8	70.5	61.0
7/5/2016	11:59:00 AM	48.7	52.8	45.1	56.8	64.3	53.1	51.4	65.6	-	57.9	63.9	-	46.3	52.8	43.3	67.1	71.5	62.5
7/5/2016	12:00:00 PM	53.4	63.8	45.5	54.5	60.0	51.6	53.1	59.3	-	58.8	64.5	-	44.5	48.6	42.3	66.1	70.3	61.6
7/5/2016	12:01:00 PM	56.0	69.0	47.0	56.4	62.2	53.0	52.5	55.8	-	61.1	71.9	-	45.0	48.7	42.4	66.6	71.3	62.6
7/5/2016	12:02:00 PM	50.0	57.3	46.5	55.3	60.8	51.3	52.2	57.7	-	59.3	67.2	-	46.0	50.0	43.2	66.4	71.2	61.6
7/5/2016	12:03:00 PM	69.9	80.2	53.6	56.8	64.5	50.8	51.9	60.4	-	57.7	63.0	-	45.4	49.1	43.0	66.8	71.7	62.2
7/5/2016	12:04:00 PM	53.8	59.4	52.4	53.2	55.6	51.6	53.0	59.2	-	59.9	67.5	-	45.4	52.3	43.3	65.9	70.1	61.4
7/5/2016	12:05:00 PM	53.6	58.0	52.0	59.3	68.0	53.5	52.1	55.3	-	58.4	64.7	-	53.4	65.8	42.9	66.1	70.9	62.4
7/5/2016	12:06:00 PM	54.0	57.4	52.4	58.9	70.6	53.7	50.4	55.1	-	59.2	70.0	-	45.0	50.7	41.9	66.9	73.5	63.5
7/5/2016	12:07:00 PM	54.7	56.5	52.9	59.2	67.4	53.8	51.5	55.2	-	57.8	63.9	-	45.6	50.0	43.2	66.7	70.8	62.7
7/5/2016	12:08:00 PM	52.5	57.3	48.3	57.1	67.4	53.1	54.4	62.9	-	59.3	71.5	-	45.1	54.1	42.9	66.7	69.9	63.4
7/5/2016	12:09:00 PM	50.3	56.6	45.8	56.4	60.7	52.5	50.6	55.3	-	57.2	67.5	-	45.2	50.2	43.3	67.4	71.0	63.0
7/5/2016	12:10:00 PM	49.4	53.9	45.2	57.8	62.1	55.1	50.9	58.4	-	57.7	63.8	-	45.0	49.9	42.6	66.8	70.0	63.3
7/5/2016	12:11:00 PM	47.8	53.7	45.7	63.5	75.5	53.9	50.1	53.3	-	56.4	59.2	-	45.6	51.8	43.1	66.9	70.8	61.7
7/5/2016	12:12:00 PM	50.0	57.7	45.9	53.9	60.7	51.5	51.6	57.6	-	56.2	60.0	-	45.8	54.1	43.2	66.2	69.9	62.2
7/5/2016	12:13:00 PM	52.0	58.6	47.8	58.8	65.3	51.9	52.4	55.0	-	57.1	64.1	-	45.1	49.5	42.6	66.2	69.7	62.2
7/5/2016	12:14:00 PM	51.7	57.9	47.3	57.9	62.8	54.7	52.6	60.1	-	56.4	63.3	-	45.6	52.6	43.1	66.4	70.2	62.5
7/5/2016	12:15:00 PM	53.8	57.0	52.6	59.2	64.7	53.4	51.8	60.2	-	57.0	59.4	-	44.8	47.7	42.4	65.9	68.2	63.0
7/5/2016	12:16:00 PM	54.5	58.3	53.1	53.6	56.3	50.9	52.3	57.1	-	56.8	59.5	-	45.1	49.7	42.8	67.0	76.4	63.3
7/5/2016	12:17:00 PM	53.7	57.8	52.7	53.9	61.1	49.9	51.1	56.9	-	56.9	58.9	-	47.3	52.4	43.7	67.3	73.2	62.5
7/5/2016	12:18:00 PM	53.1	54.8	51.9	54.3	61.3	51.2	50.5	58.2	-	56.2	59.4	-	45.3	50.1	42.6	66.2	69.1	62.0
7/5/2016	12:19:00 PM	53.1	55.8	45.9	53.3	56.5	50.6	52.6	58.8	-	56.8	60.5	-	46.3	55.4	42.7	66.2	70.0	62.5
7/5/2016	12:20:00 PM	47.8	51.9	44.9	52.6	60.5	50.1	55.9	60.8	-	57.5	61.5	-	45.7	52.2	43.3	66.9	72.9	62.9
7/5/2016	12:21:00 PM	47.5	58.2	44.5	54.6	61.7	50.4	53.9	58.0	-	56.7	62.0	-	45.6	50.9	43.2	66.8	71.0	63.3
7/5/2016	12:22:00 PM	68.5	80.2	45.9	58.2	66.5	49.8	53.0	57.9	-	56.7	60.2	-	45.9	53.0	43.1	66.5	71.5	63.3
7/5/2016	12:23:00 PM	50.6	58.7	46.1	57.5	67.8	50.1	53.1	55.5	-	56.9	62.6	-	45.2	52.7	42.7	66.6	71.7	62.4
7/5/2016	12:24:00 PM	50.6	56.8	46.5	51.6	57.4	49.3	52.6	58.0	-	55.8	59.5	-	45.2	49.7	42.8	66.0	70.2	62.3
7/5/2016	12:25:00 PM	47.3	50.8	45.5	54.7	60.4	48.4	52.8	56.3	-	57.4	66.0	-	46.6	50.0	43.9	66.7	70.8	62.4
7/5/2016	12:26:00 PM	52.9	57.7	45.4	54.1	62.1	48.7	52.2	56.7	-	56.5	64.5	-	49.1	58.8	44.7	66.7	72.1	64.0
7/5/2016	12:27:00 PM	53.3	58.7	51.8	55.1	65.7	49.1	51.0	57.1	-	65.4	73.9	-	48.9	57.4	43.6	65.4	68.4	60.4
7/5/2016	12:28:00 PM	52.4	54.2	51.4	50.7	52.4	49.1	53.3	58.5	-	65.9	77.5	-	46.6	53.5	43.3	66.3	72.5	63.0
7/5/2016	12:29:00 PM	52.8	60.0	51.8	54.4	61.7	49.5	52.5	56.4	-	56.5	58.9	-	46.7	51.8	43.5	67.1	77.4	62.5
7/5/2016	12:30:00 PM	53.2	58.6	52.1	56.0	62.0	50.1	54.2	61.2	-	57.0	68.7	-	46.0	50.0	42.2	66.8	70.2	63.3
7/5/2016	12:31:00 PM	54.0	63.7	48.1	57.9	65.2	50.7	54.4	59.0	-	61.8	76.1	-	46.4	51.5	43.1	67.0	70.2	63.7
7/5/2016	12:32:00 PM	61.8	82.4	47.1	54.6	60.7	50.0	52.2	58.3	-	57.3	59.8	-	45.4	52.4	42.7	66.0	70.5	59.6
7/5/2016	12:33:00 PM	52.2	59.9	46.7	54.4	61.9	49.8	52.6	57.5	-	56.8	63.3	-	46.4	54.6	43.5	67.0	71.7	62.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	12:34:00 PM	50.2	58.5	47.2	56.6	63.6	51.1	54.4	58.3	-	58.0	61.6	-	47.2	53.5	43.3	66.3	70.7	62.2
7/5/2016	12:35:00 PM	49.6	58.2	46.4	56.6	61.8	50.6	52.7	55.7	-	56.7	60.5	-	46.6	52.1	42.9	66.2	69.3	61.8
7/5/2016	12:36:00 PM	50.9	55.3	46.3	66.2	70.9	57.3	53.6	63.7	-	60.7	71.5	-	47.1	55.0	44.0	66.9	70.6	63.4
7/5/2016	12:37:00 PM	49.4	57.3	45.9	59.9	67.4	53.9	52.6	57.3	-	60.4	72.2	-	46.4	52.4	43.6	66.8	71.0	62.0
7/5/2016	12:38:00 PM	53.7	60.1	52.1	57.8	62.4	54.4	50.8	55.1	-	58.2	62.9	-	46.3	51.5	43.9	66.9	72.4	62.1
7/5/2016	12:39:00 PM	53.8	55.9	52.6	60.5	66.3	56.0	51.9	57.3	-	58.2	62.7	-	45.9	51.7	43.4	66.2	70.3	61.6
7/5/2016	12:40:00 PM	53.6	57.9	52.1	62.1	68.8	55.5	54.5	62.1	-	56.8	59.4	-	45.9	52.9	43.4	66.4	70.6	60.0
7/5/2016	12:41:00 PM	53.7	56.3	52.1	62.1	70.7	53.3	53.1	62.0	-	58.7	69.1	-	47.3	53.6	44.5	66.7	71.1	61.4
7/5/2016	12:42:00 PM	55.5	73.4	52.5	58.1	62.9	53.0	52.6	56.0	-	62.1	85.9	-	46.7	52.7	43.4	66.8	70.9	63.1
7/5/2016	12:43:00 PM	51.3	58.4	47.3	52.8	59.1	49.2	52.4	59.9	-	56.9	61.7	-	46.1	50.8	43.0	66.6	74.7	62.2
7/5/2016	12:44:00 PM	48.7	52.8	46.3	53.8	59.5	49.6	53.4	58.2	-	57.4	60.3	-	47.0	53.9	43.3	66.2	71.5	60.4
7/5/2016	12:45:00 PM	46.6	54.0	45.1	55.2	59.2	53.3	54.7	62.6	-	56.9	63.3	-	46.3	51.9	43.2	66.7	77.6	62.6
7/5/2016	12:46:00 PM	48.3	62.4	44.5	56.0	62.5	50.6	52.5	55.1	-	57.1	66.6	-	45.7	50.9	43.2	67.1	76.4	63.9
7/5/2016	12:47:00 PM	50.0	58.4	47.9	61.5	69.1	52.8	52.5	58.6	-	56.9	60.0	-	46.5	55.0	43.1	68.2	77.2	63.3
7/5/2016	12:48:00 PM	50.7	64.3	46.7	56.5	66.0	50.5	51.8	54.6	-	60.5	70.8	-	46.9	54.8	43.6	67.8	77.4	64.2
7/5/2016	12:49:00 PM	53.6	62.7	48.7	58.8	72.1	49.8	50.6	55.7	-	58.9	65.8	-	47.0	53.8	43.5	67.0	71.6	63.9
7/5/2016	12:50:00 PM	55.2	63.5	53.1	56.5	66.1	49.3	52.1	57.8	-	56.9	61.1	-	47.2	55.2	43.3	67.2	70.4	63.6
7/5/2016	12:51:00 PM	54.6	64.3	52.7	56.6	65.7	51.5	52.0	56.9	-	60.9	68.8	-	46.6	53.0	43.7	67.1	73.0	62.6
7/5/2016	12:52:00 PM	55.8	62.3	52.7	59.4	70.7	51.0	51.6	58.9	-	59.9	70.7	-	46.7	54.9	43.8	67.3	72.3	62.5
7/5/2016	12:53:00 PM	53.6	59.6	52.1	56.4	64.0	51.8	54.1	65.4	-	57.3	62.1	-	47.8	54.1	43.9	67.0	72.0	63.9
7/5/2016	12:54:00 PM	54.6	64.9	52.4	57.8	62.8	52.0	58.7	75.4	-	57.3	61.8	-	46.3	52.0	43.7	67.0	71.1	63.3
7/5/2016	12:55:00 PM	51.4	57.1	48.2	57.2	64.3	52.4	54.1	59.3	-	56.3	67.9	-	46.1	52.2	43.3	68.4	78.1	64.0
7/5/2016	12:56:00 PM	50.1	56.1	46.1	57.3	61.8	51.3	53.6	58.1	-	55.7	62.5	-	51.0	58.2	44.2	67.7	72.5	63.8
7/5/2016	12:57:00 PM	50.6	59.3	46.9	57.3	63.6	51.3	52.1	59.6	-	56.2	67.6	-	46.9	54.3	43.6	67.1	73.9	63.9
7/5/2016	12:58:00 PM	49.9	55.4	47.0	53.4	60.0	49.8	51.1	53.8	-	57.2	60.9	-	47.3	53.3	44.5	67.2	73.2	62.6
7/5/2016	12:59:00 PM	51.8	62.5	46.7	50.5	53.8	48.4	54.2	58.0	-	56.9	61.5	-	46.8	51.6	43.6	67.2	71.7	62.8
7/5/2016	1:00:00 PM	49.6	59.4	46.6	51.7	58.3	48.3	52.7	56.5	-	58.6	67.8	-	47.0	54.7	43.9	67.2	72.5	63.0
7/5/2016	1:01:00 PM	52.9	63.4	47.3	50.4	52.9	48.5	52.0	61.0	-	58.2	61.6	-	47.4	54.5	44.5	66.7	73.0	61.5
7/5/2016	1:02:00 PM	54.3	63.1	52.6	53.5	60.9	50.1	53.9	59.7	-	57.5	61.5	-	47.9	53.9	44.0	66.8	77.1	63.5
7/5/2016	1:03:00 PM	54.9	59.6	53.5	54.6	59.0	51.3	50.0	53.7	-	58.3	65.5	-	47.0	53.6	43.6	65.8	70.0	62.7
7/5/2016	1:04:00 PM	54.9	64.2	52.9	56.5	65.3	50.0	51.1	53.9	-	58.3	61.6	-	47.8	55.3	43.6	66.7	70.5	62.4
7/5/2016	1:05:00 PM	54.2	64.4	52.7	52.4	56.2	50.0	53.2	59.3	-	58.1	64.7	-	46.6	51.5	43.6	66.2	70.1	60.9
7/5/2016	1:06:00 PM	54.0	62.8	48.7	60.8	68.9	53.5	53.0	56.7	-	58.0	70.4	-	46.3	55.0	43.2	66.7	70.2	63.0
7/5/2016	1:07:00 PM	52.8	64.9	48.3	56.7	66.6	51.7	53.8	68.5	-	62.2	74.8	-	45.9	53.6	42.9	66.8	72.1	63.5
7/5/2016	1:08:00 PM	51.0	58.4	48.2	52.8	60.2	51.0	52.4	60.9	-	56.6	61.1	-	46.4	51.3	43.3	66.8	72.7	62.3
7/5/2016	1:09:00 PM	49.7	56.5	47.1	58.9	66.7	52.0	50.7	64.3	-	56.5	59.9	-	47.3	52.8	43.6	66.6	71.2	63.2
7/5/2016	1:10:00 PM	49.3	59.5	46.8	62.2	66.3	57.9	55.0	61.1	-	56.9	59.2	-	46.9	52.5	43.7	66.1	71.6	61.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	1:11:00 PM	51.0	60.4	46.6	57.1	61.2	53.5	51.5	55.8	-	56.7	58.8	-	47.7	55.0	44.0	66.4	70.7	60.8
7/5/2016	1:12:00 PM	54.1	59.4	49.4	56.4	63.7	52.7	49.9	53.1	-	57.0	59.4	-	47.4	53.1	43.1	66.5	71.2	62.9
7/5/2016	1:13:00 PM	56.0	59.2	54.5	54.0	56.6	51.4	51.3	55.5	-	56.8	59.5	-	47.9	54.6	44.1	66.0	69.8	62.4
7/5/2016	1:14:00 PM	56.0	59.0	53.5	54.0	59.5	50.4	52.5	55.4	-	57.0	61.9	-	48.5	56.2	44.5	66.0	70.8	62.5
7/5/2016	1:15:00 PM	54.7	60.6	53.4	53.0	60.3	49.6	50.2	53.7	-	56.9	66.0	-	48.4	54.8	44.5	65.9	69.7	61.9
7/5/2016	1:16:00 PM	55.1	66.5	52.7	54.4	59.1	50.7	51.3	59.1	-	57.0	59.7	-	47.2	54.5	43.7	67.1	70.3	63.2
7/5/2016	1:17:00 PM	54.1	57.5	53.0	52.7	54.8	50.5	54.0	58.9	-	57.3	60.4	-	48.9	57.9	44.9	66.1	72.3	60.9
7/5/2016	1:18:00 PM	52.4	56.5	47.6	51.8	54.2	49.6	52.4	57.9	-	57.8	67.8	-	48.7	54.8	44.5	66.0	74.3	62.2
7/5/2016	1:19:00 PM	49.6	54.6	46.9	51.8	57.8	49.8	52.9	57.5	-	56.5	60.6	-	47.5	54.6	43.9	66.7	74.8	62.6
7/5/2016	1:20:00 PM	51.0	60.3	47.2	55.6	60.7	50.6	53.2	56.2	-	56.6	62.6	-	47.9	54.7	44.2	66.8	75.9	61.6
7/5/2016	1:21:00 PM	48.4	53.6	44.3	56.8	63.9	51.1	55.2	59.8	-	56.9	61.4	-	48.1	56.9	44.1	66.5	73.8	63.2
7/5/2016	1:22:00 PM	46.5	52.3	43.9	53.4	60.9	51.0	53.7	59.6	-	57.6	61.3	-	47.1	53.3	43.9	66.6	73.4	63.0
7/5/2016	1:23:00 PM	46.1	60.2	43.5	52.6	55.9	50.9	52.4	55.4	-	56.8	58.9	-	47.6	53.3	44.1	66.9	71.8	63.4
7/5/2016	1:24:00 PM	52.6	56.9	45.5	52.3	61.3	49.5	54.2	60.5	-	57.0	59.1	-	51.3	56.6	45.2	66.4	75.6	62.7
7/5/2016	1:25:00 PM	53.8	57.6	52.4	57.1	67.3	51.1	53.3	56.8	-	57.2	62.7	-	48.5	55.2	44.6	65.2	70.1	61.8
7/5/2016	1:26:00 PM	56.7	69.3	53.6	63.0	75.4	51.6	53.2	57.8	-	57.2	60.5	-	48.0	56.0	43.3	66.1	70.5	63.3
7/5/2016	1:27:00 PM	55.3	58.9	52.5	57.6	67.1	51.5	54.6	61.8	-	58.0	63.4	-	48.1	54.9	44.4	65.9	70.3	62.4
7/5/2016	1:28:00 PM	54.5	58.9	52.9	57.2	63.0	52.0	52.8	57.3	-	61.8	77.1	-	49.1	54.6	45.1	65.4	69.9	61.8
7/5/2016	1:29:00 PM	58.0	66.6	53.0	56.4	62.4	52.8	55.8	60.0	-	58.7	71.9	-	48.2	54.8	44.3	65.9	70.7	61.2
7/5/2016	1:30:00 PM	50.5	54.9	46.5	58.8	65.8	54.0	54.5	56.7	-	58.0	63.5	-	48.6	52.9	44.9	65.7	69.4	59.4
7/5/2016	1:31:00 PM	59.4	81.3	47.0	56.4	63.6	51.7	54.0	60.5	-	56.9	63.3	-	49.2	57.3	44.9	66.4	71.5	63.0
7/5/2016	1:32:00 PM	56.0	77.8	47.1	54.2	62.4	50.5	53.6	57.6	-	56.9	59.6	-	49.0	54.9	45.2	66.0	71.9	62.8
7/5/2016	1:33:00 PM	48.0	59.0	45.9	54.5	63.0	50.5	54.4	58.3	-	57.3	63.4	-	47.7	58.8	43.8	66.3	70.6	62.7
7/5/2016	1:34:00 PM	56.1	65.5	46.9	57.1	62.2	51.9	53.6	58.1	-	56.8	60.9	-	48.6	54.8	44.0	66.3	72.9	63.0
7/5/2016	1:35:00 PM	51.6	70.9	47.0	55.5	61.1	50.8	53.7	62.6	-	56.8	60.2	-	48.7	53.7	45.0	65.8	74.9	61.5
7/5/2016	1:36:00 PM	59.9	80.4	52.6	56.2	65.7	50.6	51.8	54.2	-	57.8	61.8	-	47.7	53.5	44.6	65.7	71.6	62.6
7/5/2016	1:37:00 PM	57.0	66.7	52.7	53.1	58.6	50.1	52.3	61.6	-	57.1	60.7	-	47.3	54.0	44.4	66.3	72.2	63.3
7/5/2016	1:38:00 PM	54.3	59.0	52.8	53.5	58.4	50.2	52.0	57.3	-	57.1	60.3	-	47.9	54.3	44.7	66.6	72.9	62.6
7/5/2016	1:39:00 PM	60.0	79.1	52.5	55.1	64.9	49.6	53.3	57.1	-	57.1	62.2	-	47.6	54.6	43.6	69.5	79.7	63.0
7/5/2016	1:40:00 PM	53.6	56.7	52.5	53.5	59.6	49.8	52.0	55.9	-	58.8	68.0	-	48.7	54.0	44.8	65.8	69.4	62.6
7/5/2016	1:41:00 PM	53.8	55.8	50.5	56.0	61.0	51.5	53.3	64.0	-	57.6	63.3	-	52.1	60.1	44.2	66.1	69.9	61.8
7/5/2016	1:42:00 PM	50.2	53.9	47.8	56.4	65.4	51.0	53.8	70.5	-	56.8	63.6	-	47.1	53.0	44.0	65.8	70.0	62.1
7/5/2016	1:43:00 PM	60.4	76.2	49.8	55.0	62.6	50.2	53.4	70.5	-	60.8	72.2	-	48.0	54.2	44.2	66.3	70.8	62.9
7/5/2016	1:44:00 PM	59.2	60.9	57.4	52.2	55.0	49.5	53.1	59.4	-	58.2	61.6	-	47.2	51.6	44.2	65.6	71.0	61.6
7/5/2016	1:45:00 PM	55.4	63.5	48.4	56.6	65.0	50.8	52.0	56.1	-	58.3	62.8	-	47.6	53.4	44.4	66.4	71.3	62.9
7/5/2016	1:46:00 PM	50.7	58.1	48.0	57.4	64.8	50.8	53.8	57.0	-	58.0	62.5	-	47.9	53.4	44.3	66.0	71.4	62.3
7/5/2016	1:47:00 PM	50.9	58.3	46.5	52.1	55.0	49.6	53.5	56.2	-	57.9	62.2	-	48.4	56.2	44.4	66.3	69.9	62.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	1:48:00 PM	54.2	60.0	53.0	53.2	60.4	49.0	50.7	56.5	-	57.2	60.9	-	48.5	53.9	44.6	65.5	70.4	60.2
7/5/2016	1:49:00 PM	55.8	64.0	52.7	52.8	59.2	50.0	51.2	55.0	-	56.5	59.7	-	47.9	54.9	44.2	66.2	70.1	62.4
7/5/2016	1:50:00 PM	53.5	56.7	52.3	59.1	66.3	52.8	53.3	61.4	-	58.1	62.0	-	47.9	54.1	44.2	66.1	70.4	62.0
7/5/2016	1:51:00 PM	53.8	56.6	52.6	56.2	64.0	50.8	51.8	55.0	-	58.2	63.5	-	48.0	52.5	44.7	66.6	72.0	63.5
7/5/2016	1:52:00 PM	53.2	55.8	52.0	57.4	64.5	51.9	53.1	55.4	-	57.8	62.4	-	47.2	51.1	44.4	66.4	69.9	62.9
7/5/2016	1:53:00 PM	54.9	63.5	49.4	59.1	65.8	53.6	51.1	54.1	-	57.3	59.3	-	47.9	54.9	44.6	66.3	74.7	62.3
7/5/2016	1:54:00 PM	52.4	61.1	49.3	55.0	61.4	50.6	54.5	58.6	-	57.4	60.1	-	48.3	52.7	45.0	66.1	71.1	62.2
7/5/2016	1:55:00 PM	55.2	64.7	49.4	53.4	55.8	51.0	53.8	60.3	-	57.6	60.4	-	48.3	54.8	45.1	66.3	71.5	63.2
7/5/2016	1:56:00 PM	51.2	56.9	48.8	53.7	55.7	51.5	53.8	61.2	-	58.6	62.7	-	48.2	53.0	44.0	65.6	69.5	62.9
7/5/2016	1:57:00 PM	49.8	53.4	47.3	53.1	57.1	50.8	54.2	58.2	-	58.4	63.1	-	47.2	53.5	43.9	66.2	70.1	64.2
7/5/2016	1:58:00 PM	50.6	57.6	47.8	58.1	68.6	51.0	54.1	59.4	-	57.9	61.6	-	47.9	58.1	44.6	66.0	70.7	62.6
7/5/2016	1:59:00 PM	50.5	57.3	48.1	56.6	62.1	51.5	53.6	59.4	-	58.2	64.1	-	46.6	50.9	44.0	65.8	71.8	61.6
7/5/2016	2:00:00 PM	54.2	57.7	48.6	55.5	68.5	52.4	53.1	55.8	-	59.0	64.5	-	47.0	50.5	44.0	66.3	71.5	63.0
7/5/2016	2:01:00 PM	54.4	57.3	52.5	59.7	68.4	53.3	54.3	57.4	-	57.0	60.1	-	46.8	54.1	44.5	65.7	70.5	62.9
7/5/2016	2:02:00 PM	55.8	70.5	52.4	58.5	64.8	51.5	65.0	78.6	-	58.2	64.1	-	45.9	49.2	43.5	65.3	69.2	61.0
7/5/2016	2:03:00 PM	55.4	64.4	52.7	58.1	64.3	53.2	66.7	81.1	-	57.0	61.5	-	47.9	57.3	44.4	65.7	70.7	62.7
7/5/2016	2:04:00 PM	59.3	78.9	52.9	54.4	58.3	51.6	57.8	73.9	-	57.7	66.5	-	48.0	52.9	45.0	65.4	69.2	63.1
7/5/2016	2:05:00 PM	56.6	70.8	46.7	54.0	62.3	51.4	50.9	54.9	-	58.5	67.3	-	46.3	52.4	43.5	65.5	69.1	61.1
7/5/2016	2:06:00 PM	50.4	54.7	46.5	52.5	54.7	50.8	54.6	61.4	-	56.5	59.5	-	46.2	49.7	43.4	65.3	71.1	60.6
7/5/2016	2:07:00 PM	49.9	56.6	47.0	51.6	55.6	49.6	53.3	56.5	-	57.3	60.7	-	46.6	54.0	43.8	66.1	69.6	62.2
7/5/2016	2:08:00 PM	50.5	55.7	47.6	52.8	60.8	49.3	54.4	60.7	-	58.3	68.0	-	46.8	49.4	44.0	66.2	71.4	62.2
7/5/2016	2:09:00 PM	50.3	54.3	48.0	56.9	64.0	52.0	54.8	62.7	-	62.4	74.0	-	45.6	51.7	43.3	66.3	70.4	62.5
7/5/2016	2:10:00 PM	52.4	56.5	50.4	57.5	63.0	50.8	54.4	59.7	-	57.7	70.7	-	46.8	54.5	44.0	65.7	69.3	63.7
7/5/2016	2:11:00 PM	53.5	58.3	49.9	65.8	73.0	53.8	53.0	59.7	-	69.3	82.7	-	46.5	51.3	44.0	66.3	70.0	63.0
7/5/2016	2:12:00 PM	55.4	62.0	52.5	54.3	59.7	50.5	52.8	59.0	-	57.7	61.4	-	46.5	53.2	43.4	66.3	69.8	62.6
7/5/2016	2:13:00 PM	54.6	61.2	52.4	54.2	57.6	51.5	53.6	57.1	-	57.4	59.4	-	46.8	52.6	44.1	66.2	72.6	63.1
7/5/2016	2:14:00 PM	58.4	75.0	52.5	54.0	58.2	51.4	54.5	57.8	-	57.0	61.3	-	53.9	62.9	46.8	65.7	69.5	62.0
7/5/2016	2:15:00 PM	54.9	60.9	53.1	54.0	59.9	51.1	53.4	60.1	-	57.9	60.2	-	47.1	54.0	44.0	65.4	69.4	62.1
7/5/2016	2:16:00 PM	54.3	65.4	52.2	53.7	56.2	51.5	53.3	58.2	-	57.3	61.3	-	46.0	52.9	43.8	66.2	70.0	62.5
7/5/2016	2:17:00 PM	52.1	61.5	47.6	53.6	57.3	51.0	54.0	57.5	-	58.6	68.6	-	46.0	54.7	44.0	65.5	70.0	63.2
7/5/2016	2:18:00 PM	50.2	58.3	48.0	54.6	58.5	51.8	54.2	56.0	-	57.2	63.0	-	46.4	50.8	44.0	65.8	71.4	62.9
7/5/2016	2:19:00 PM	50.5	53.9	48.4	54.2	56.4	52.2	53.2	55.1	-	58.6	69.1	-	45.6	48.3	43.3	66.8	72.5	63.3
7/5/2016	2:20:00 PM	51.4	60.9	47.3	54.3	59.2	51.7	55.0	62.8	-	58.1	69.2	-	45.2	51.8	43.4	66.5	71.7	63.4
7/5/2016	2:21:00 PM	56.5	72.0	48.3	54.5	59.0	50.1	54.2	57.6	-	58.4	65.1	-	52.3	64.6	43.7	66.4	70.5	62.9
7/5/2016	2:22:00 PM	51.7	59.8	48.3	53.4	58.1	49.1	54.5	61.1	-	58.3	62.9	-	64.4	75.7	45.2	66.1	69.4	61.8
7/5/2016	2:23:00 PM	54.5	72.5	46.4	57.3	64.3	50.8	55.3	60.9	-	57.9	62.4	-	46.7	58.1	44.0	66.1	73.3	62.4
7/5/2016	2:24:00 PM	58.9	77.8	53.3	55.6	63.8	50.7	55.4	64.1	-	57.8	63.1	-	45.7	51.2	43.5	66.4	72.7	62.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	2:25:00 PM	57.0	70.2	52.9	53.0	59.6	50.1	53.8	58.3	-	58.5	61.3	-	45.7	49.1	43.6	65.6	72.4	61.8
7/5/2016	2:26:00 PM	53.8	58.3	52.6	53.8	57.4	50.1	52.5	55.1	-	58.3	62.2	-	45.4	49.1	43.3	65.8	69.6	62.8
7/5/2016	2:27:00 PM	53.9	58.3	52.1	54.7	62.5	50.5	54.9	66.3	-	57.7	62.9	-	45.3	48.8	43.2	66.2	69.7	63.3
7/5/2016	2:28:00 PM	53.3	61.6	51.7	55.8	63.5	51.6	53.8	57.1	-	57.8	61.3	-	46.3	49.1	43.4	66.5	73.0	64.2
7/5/2016	2:29:00 PM	51.7	56.8	47.2	57.0	65.1	52.8	54.1	58.5	-	57.8	60.8	-	46.0	49.4	44.0	66.0	71.5	62.5
7/5/2016	2:30:00 PM	49.9	61.6	46.6	62.4	73.8	52.9	54.5	60.2	-	58.3	64.9	-	47.0	55.1	44.1	66.4	70.1	64.1
7/5/2016	2:31:00 PM	48.9	51.7	46.3	71.4	80.7	52.9	55.8	59.2	-	56.9	60.2	-	46.4	62.4	43.5	66.7	72.1	64.2
7/5/2016	2:32:00 PM	55.8	64.7	46.9	64.0	69.4	52.9	55.3	58.8	-	57.8	61.0	-	52.8	71.2	43.8	65.8	70.0	62.8
7/5/2016	2:33:00 PM	52.0	59.2	47.6	62.5	67.3	57.3	54.9	60.5	-	58.3	63.3	-	45.8	50.5	43.9	66.0	79.8	62.7
7/5/2016	2:34:00 PM	56.9	69.4	45.5	60.6	63.9	55.4	56.2	60.8	-	57.6	61.9	-	48.2	59.2	43.9	69.1	74.9	64.0
7/5/2016	2:35:00 PM	54.5	64.0	49.1	58.8	62.3	54.5	55.8	60.4	-	57.2	59.2	-	47.0	53.8	44.9	65.2	69.7	63.1
7/5/2016	2:36:00 PM	53.7	55.8	52.5	57.5	61.7	54.1	54.4	58.3	-	58.1	60.7	-	45.7	48.2	43.6	66.0	71.0	63.5
7/5/2016	2:37:00 PM	54.1	58.8	52.4	59.5	63.8	55.6	52.7	56.3	-	57.5	62.0	-	46.6	51.3	44.6	65.8	71.3	62.1
7/5/2016	2:38:00 PM	53.8	61.0	52.2	63.8	70.4	56.3	54.8	60.6	-	57.9	61.2	-	45.9	48.4	44.0	66.0	70.0	62.9
7/5/2016	2:39:00 PM	52.9	61.8	51.8	62.1	72.6	54.6	53.2	58.9	-	58.0	60.5	-	47.2	55.3	44.1	66.1	72.7	62.3
7/5/2016	2:40:00 PM	53.7	60.0	52.0	61.9	71.6	50.4	52.2	54.0	-	57.7	60.7	-	45.8	52.0	43.4	64.9	68.9	61.6
7/5/2016	2:41:00 PM	55.5	65.9	53.3	57.9	68.5	50.2	53.2	56.8	-	58.0	63.9	-	45.2	50.4	43.1	65.7	69.2	63.1
7/5/2016	2:42:00 PM	54.8	62.0	52.9	55.7	62.3	52.1	53.9	57.3	-	58.0	61.7	-	45.3	52.6	43.1	66.0	69.1	63.5
7/5/2016	2:43:00 PM	54.6	58.2	53.0	59.1	66.6	52.4	52.1	55.9	-	57.9	61.5	-	45.2	47.9	43.1	65.2	71.3	61.1
7/5/2016	2:44:00 PM	55.8	64.9	53.3	55.5	60.9	50.9	53.5	57.6	-	57.4	61.9	-	46.0	55.9	43.1	65.4	69.8	62.6
7/5/2016	2:45:00 PM	56.5	61.8	54.1	55.5	60.1	52.0	52.8	54.1	-	56.7	61.8	-	45.6	52.5	43.4	65.9	70.4	61.2
7/5/2016	2:46:00 PM	56.3	61.7	53.8	55.8	63.1	50.5	52.2	55.8	-	57.8	60.0	-	46.0	53.5	43.7	64.8	71.1	61.9
7/5/2016	2:47:00 PM	55.1	61.6	53.4	54.2	58.7	50.8	53.2	59.9	-	58.6	61.1	-	46.2	50.5	43.2	65.2	68.9	62.2
7/5/2016	2:48:00 PM	54.6	58.8	53.2	56.0	67.4	50.8	50.2	55.5	-	59.4	71.9	-	46.5	49.2	43.4	65.4	70.1	62.4
7/5/2016	2:49:00 PM	55.7	59.3	54.0	55.8	64.5	50.4	53.1	58.3	-	57.8	62.7	-	46.5	49.4	43.8	65.9	69.6	61.7
7/5/2016	2:50:00 PM	54.8	58.9	53.2	52.1	58.2	49.9	53.1	56.0	-	57.5	60.4	-	46.9	50.4	44.3	66.1	72.1	63.0
7/5/2016	2:51:00 PM	53.9	59.3	52.4	54.7	64.3	49.6	52.5	57.3	-	58.5	64.8	-	49.8	62.0	43.2	65.4	71.0	62.9
7/5/2016	2:52:00 PM	53.5	58.8	52.0	56.5	63.6	50.8	52.6	55.6	-	61.3	70.8	-	44.7	47.2	43.0	66.1	72.7	63.1
7/5/2016	2:53:00 PM	53.1	56.0	51.9	54.7	61.3	50.8	52.6	58.9	-	59.7	69.2	-	45.5	52.6	43.4	64.9	69.5	61.1
7/5/2016	2:54:00 PM	53.6	57.1	52.1	56.7	64.8	49.5	51.1	58.9	-	57.7	63.2	-	45.7	50.8	43.7	65.4	68.0	62.6
7/5/2016	2:55:00 PM	53.4	55.9	52.3	59.1	66.7	53.3	52.1	59.6	-	57.2	63.0	-	47.3	52.4	44.4	65.0	71.8	62.5
7/5/2016	2:56:00 PM	54.0	57.3	52.0	54.4	61.4	51.4	52.4	58.5	-	57.1	64.7	-	46.1	51.4	43.7	65.0	72.2	62.1
7/5/2016	2:57:00 PM	53.1	55.4	51.7	55.0	60.3	52.2	53.4	59.9	-	57.4	60.9	-	45.3	49.5	43.2	65.8	68.6	63.1
7/5/2016	2:58:00 PM	56.0	65.3	51.8	61.9	67.6	54.3	54.9	59.7	-	57.3	62.7	-	44.7	47.5	42.9	65.5	71.5	62.9
7/5/2016	2:59:00 PM	58.1	74.6	51.8	60.0	68.1	54.7	53.0	57.6	-	57.2	63.4	-	45.5	53.3	43.8	65.5	70.1	62.7
7/5/2016	3:00:00 PM	56.0	61.1	52.6	60.0	67.2	54.2	54.5	59.8	-	58.2	68.9	-	46.2	49.2	43.4	65.3	71.4	62.2
7/5/2016	3:01:00 PM	56.2	64.2	52.2	57.5	71.9	53.1	53.9	60.4	-	57.9	64.1	-	44.7	46.5	42.9	66.2	70.9	63.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	3:02:00 PM	55.7	60.0	53.0	57.0	63.0	53.5	53.1	61.0	-	59.7	67.5	-	45.3	60.1	42.6	64.9	69.6	61.7
7/5/2016	3:03:00 PM	54.3	57.9	53.1	56.8	61.2	54.1	51.1	54.7	-	57.3	61.4	-	45.4	49.1	43.2	66.0	71.3	63.4
7/5/2016	3:04:00 PM	53.4	55.7	51.9	55.1	58.6	52.6	52.6	55.5	-	58.2	60.9	-	44.7	47.7	42.8	65.8	71.7	62.7
7/5/2016	3:05:00 PM	52.8	54.0	51.5	56.9	60.8	53.4	54.8	58.2	-	57.5	60.6	-	45.0	48.6	42.9	65.6	69.7	62.8
7/5/2016	3:06:00 PM	53.9	56.4	52.2	56.9	63.3	53.6	52.8	56.2	-	58.8	63.5	-	45.4	52.8	43.1	65.4	68.5	63.2
7/5/2016	3:07:00 PM	54.0	59.3	52.4	58.4	62.8	52.9	55.0	60.2	-	57.2	66.0	-	44.0	48.1	42.3	65.4	70.7	62.3
7/5/2016	3:08:00 PM	52.8	56.2	51.8	58.5	63.8	51.8	52.5	55.9	-	57.4	62.3	-	44.2	46.2	42.4	65.7	71.8	60.6
7/5/2016	3:09:00 PM	52.8	54.8	51.7	65.6	71.2	54.5	50.9	53.4	-	59.9	69.3	-	46.0	49.1	43.3	66.7	74.4	62.2
7/5/2016	3:10:00 PM	56.1	68.5	52.8	53.1	62.5	49.4	52.6	55.6	-	60.4	75.4	-	45.4	50.9	43.0	65.9	71.0	62.3
7/5/2016	3:11:00 PM	54.6	63.5	52.5	52.4	58.5	49.3	51.6	56.0	-	57.2	61.2	-	44.9	47.6	42.7	65.7	71.7	62.3
7/5/2016	3:12:00 PM	53.4	54.6	52.3	52.2	54.1	49.6	52.8	59.2	-	61.5	68.2	-	44.2	55.0	41.8	66.6	71.7	63.6
7/5/2016	3:13:00 PM	53.7	55.5	52.5	54.5	61.5	50.7	54.4	67.3	-	57.4	64.4	-	43.7	45.8	42.2	66.1	71.1	62.6
7/5/2016	3:14:00 PM	54.0	58.9	52.3	53.9	59.1	50.3	52.7	58.8	-	56.9	63.8	-	45.4	48.8	42.8	66.1	71.3	62.4
7/5/2016	3:15:00 PM	68.4	81.0	53.2	60.2	65.9	54.2	52.6	56.9	-	56.4	61.5	-	44.7	53.5	43.0	66.3	71.5	62.9
7/5/2016	3:16:00 PM	53.6	54.8	52.3	56.5	62.0	50.3	52.2	60.2	-	56.8	59.8	-	44.3	48.4	42.4	65.3	69.6	62.6
7/5/2016	3:17:00 PM	53.5	54.6	52.4	52.0	57.5	48.9	53.6	56.9	-	57.2	60.5	-	44.6	47.2	42.2	65.1	70.2	62.3
7/5/2016	3:18:00 PM	53.8	55.4	52.5	52.4	55.8	50.5	52.4	57.5	-	56.9	62.1	-	44.4	53.0	42.3	66.0	71.0	63.2
7/5/2016	3:19:00 PM	54.8	58.4	53.1	52.1	55.2	49.9	51.3	57.4	-	56.5	60.4	-	44.3	47.1	42.6	66.2	69.2	63.5
7/5/2016	3:20:00 PM	54.2	63.9	53.1	53.2	64.3	50.2	54.5	59.0	-	57.1	59.8	-	44.1	48.3	42.4	65.7	69.3	63.1
7/5/2016	3:21:00 PM	54.6	56.9	53.1	54.2	63.9	50.1	54.9	59.9	-	57.3	60.5	-	44.4	47.8	42.0	65.8	70.5	62.8
7/5/2016	3:22:00 PM	54.2	57.6	52.6	52.0	54.8	50.2	55.0	58.4	-	56.7	63.3	-	44.5	46.9	42.7	66.9	75.6	63.4
7/5/2016	3:23:00 PM	57.0	65.6	53.6	53.2	56.9	50.2	53.7	57.7	-	55.3	59.3	-	46.1	51.2	43.1	65.1	68.3	63.1
7/5/2016	3:24:00 PM	55.1	65.3	53.4	54.7	62.1	50.4	52.7	57.6	-	56.8	61.9	-	49.0	57.7	44.5	65.5	71.5	63.0
7/5/2016	3:25:00 PM	54.4	62.6	53.1	52.7	59.6	49.3	53.8	58.3	-	58.2	65.9	-	44.9	48.4	42.8	65.3	68.7	63.2
7/5/2016	3:26:00 PM	54.5	58.0	53.0	52.0	56.1	50.0	52.6	55.5	-	56.8	62.1	-	44.5	47.6	42.7	65.1	71.6	63.0
7/5/2016	3:27:00 PM	53.7	55.3	52.4	53.6	60.2	49.6	54.1	60.6	-	58.8	71.3	-	44.6	52.0	42.3	65.4	75.2	62.1
7/5/2016	3:28:00 PM	54.0	58.4	52.7	55.5	63.7	49.9	54.0	58.3	-	56.7	60.5	-	45.3	54.5	42.2	65.4	71.7	63.1
7/5/2016	3:29:00 PM	54.3	60.0	52.8	53.9	61.2	50.1	53.0	57.1	-	56.7	61.5	-	46.7	51.9	43.1	65.8	68.6	62.2
7/5/2016	3:30:00 PM	54.0	57.4	52.9	50.6	52.6	49.1	50.8	54.0	-	56.6	66.2	-	45.2	54.4	43.6	65.5	71.3	62.2
7/5/2016	3:31:00 PM	54.0	56.3	52.7	51.1	53.9	47.9	50.6	53.2	-	57.2	66.1	-	46.3	54.6	43.2	66.1	70.4	62.7
7/5/2016	3:32:00 PM	53.3	54.6	52.3	51.5	54.4	49.6	50.3	55.5	-	56.4	62.0	-	45.7	56.3	43.3	65.5	71.6	62.3
7/5/2016	3:33:00 PM	53.5	55.8	52.6	52.9	58.3	49.2	53.2	61.0	-	57.1	60.0	-	45.2	50.4	42.8	66.0	74.0	62.5
7/5/2016	3:34:00 PM	53.3	58.3	52.4	56.7	61.4	54.3	51.1	54.2	-	56.8	65.0	-	44.7	51.2	42.7	66.9	72.5	64.0
7/5/2016	3:35:00 PM	55.3	70.2	52.4	61.7	66.0	57.3	49.6	54.3	-	57.8	61.4	-	44.3	54.5	42.2	65.5	70.1	62.4
7/5/2016	3:36:00 PM	53.5	54.4	52.2	59.4	64.4	54.2	51.5	62.4	-	55.6	59.4	-	44.5	55.0	42.3	65.4	70.8	62.5
7/5/2016	3:37:00 PM	53.5	57.4	52.5	55.7	61.6	50.7	50.5	54.6	-	56.0	58.9	-	43.8	47.8	42.1	65.6	71.1	62.7
7/5/2016	3:38:00 PM	54.3	58.7	52.8	54.0	61.3	49.2	51.7	57.2	-	56.7	60.4	-	44.2	47.3	42.2	65.4	72.1	60.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	3:39:00 PM	54.0	57.4	52.6	51.8	57.9	48.5	51.3	58.0	-	56.1	61.8	-	44.9	54.2	42.8	66.4	69.3	64.0
7/5/2016	3:40:00 PM	53.3	54.3	52.4	52.3	56.2	48.9	54.4	58.5	-	55.7	58.5	-	44.0	46.2	42.3	65.4	71.0	62.8
7/5/2016	3:41:00 PM	53.9	58.0	52.6	54.6	59.0	50.8	53.4	57.2	-	56.0	58.8	-	44.6	52.8	42.8	66.6	79.6	61.8
7/5/2016	3:42:00 PM	54.2	57.6	52.4	52.4	55.6	49.8	50.2	53.1	-	56.3	59.5	-	44.4	51.6	42.0	65.5	69.9	63.2
7/5/2016	3:43:00 PM	53.9	61.7	51.9	52.9	56.0	50.5	52.4	56.3	-	56.9	60.4	-	44.1	47.5	42.2	65.7	72.0	62.9
7/5/2016	3:44:00 PM	56.7	64.9	52.9	63.7	73.1	52.6	52.5	55.8	-	57.7	62.1	-	44.2	48.5	42.1	64.7	72.0	62.4
7/5/2016	3:45:00 PM	53.2	54.7	51.8	59.8	69.7	51.8	59.1	66.7	-	56.3	59.4	-	44.3	50.9	42.2	65.6	70.5	63.3
7/5/2016	3:46:00 PM	53.2	55.2	51.9	60.7	65.1	54.1	53.8	62.5	-	55.9	58.8	-	44.4	47.6	42.0	66.2	74.4	62.2
7/5/2016	3:47:00 PM	52.7	56.4	51.4	58.9	63.9	54.2	52.6	58.4	-	55.7	60.5	-	44.7	53.2	42.9	66.0	75.0	63.8
7/5/2016	3:48:00 PM	54.4	61.0	52.1	57.9	61.2	54.1	53.0	56.5	-	56.0	58.5	-	44.1	46.1	42.4	65.7	74.2	62.7
7/5/2016	3:49:00 PM	53.6	55.7	52.6	56.4	60.5	52.5	53.0	58.3	-	57.2	64.1	-	44.1	52.6	42.0	65.1	69.7	62.0
7/5/2016	3:50:00 PM	59.9	81.0	52.6	56.5	61.2	52.5	52.6	54.6	-	57.5	67.5	-	43.9	46.7	41.2	65.0	68.4	62.7
7/5/2016	3:51:00 PM	55.7	63.1	53.0	56.6	62.4	52.8	54.1	58.2	-	58.6	65.7	-	44.5	51.1	42.1	64.9	68.0	62.5
7/5/2016	3:52:00 PM	54.2	57.4	52.7	53.9	60.2	50.3	52.9	56.8	-	56.9	61.6	-	45.4	49.9	42.4	65.1	68.9	62.5
7/5/2016	3:53:00 PM	54.0	66.3	52.4	57.4	64.5	51.5	51.0	55.0	-	57.5	60.3	-	46.1	51.0	42.9	65.6	69.8	62.8
7/5/2016	3:54:00 PM	53.8	59.0	52.3	57.4	65.4	50.1	49.7	53.5	-	58.8	71.3	-	44.7	55.5	42.3	64.7	70.1	62.1
7/5/2016	3:55:00 PM	53.4	57.9	52.3	54.3	60.9	49.8	49.8	54.6	-	55.8	61.9	-	44.3	46.9	41.9	64.8	69.0	63.1
7/5/2016	3:56:00 PM	58.6	77.3	52.7	55.3	62.0	50.4	53.2	58.3	-	56.8	60.3	-	45.3	54.1	42.1	65.9	69.5	63.6
7/5/2016	3:57:00 PM	56.9	66.5	52.5	52.9	58.0	49.5	51.5	55.3	-	56.7	60.9	-	44.0	47.5	42.2	65.4	71.4	62.9
7/5/2016	3:58:00 PM	56.9	66.4	54.2	54.0	59.2	50.1	52.8	64.9	-	57.6	67.0	-	43.7	45.9	41.9	67.5	82.5	62.6
7/5/2016	3:59:00 PM	55.0	59.9	52.9	56.3	62.6	51.7	51.5	57.2	-	57.9	63.7	-	44.4	46.8	42.2	67.3	73.2	63.6
7/5/2016	4:00:00 PM	54.0	56.9	52.9	55.1	58.3	50.7	53.1	68.2	-	55.5	59.1	-	44.9	47.9	42.9	67.6	77.5	63.5
7/5/2016	4:01:00 PM	53.4	57.3	51.5	55.1	60.9	51.9	52.3	59.7	-	57.6	65.6	-	44.4	53.5	42.8	66.9	77.3	62.5
7/5/2016	4:02:00 PM	53.8	55.6	52.8	55.5	63.5	51.4	50.9	57.9	-	57.5	65.5	-	45.1	53.0	42.6	64.8	67.5	62.6
7/5/2016	4:03:00 PM	53.1	54.9	51.9	53.8	59.1	51.1	54.0	58.2	-	56.7	59.7	-	44.7	52.5	42.4	65.4	72.8	62.5
7/5/2016	4:04:00 PM	53.3	56.5	51.8	53.9	59.2	51.2	54.1	68.8	-	57.7	60.4	-	44.5	59.4	42.0	64.8	69.8	62.6
7/5/2016	4:05:00 PM	54.2	55.3	53.0	58.4	65.5	54.0	56.4	68.7	-	57.2	62.9	-	44.0	54.7	42.1	65.7	70.7	62.8
7/5/2016	4:06:00 PM	53.8	55.0	52.6	54.9	58.2	52.0	57.7	76.3	-	57.4	66.4	-	44.4	57.1	42.2	65.8	70.1	63.6
7/5/2016	4:07:00 PM	53.5	54.9	52.1	54.4	57.9	51.5	57.9	73.5	-	57.6	59.9	-	45.4	58.1	42.1	66.0	72.2	63.7
7/5/2016	4:08:00 PM	55.6	68.7	53.1	53.2	56.2	51.0	61.3	78.4	-	58.8	69.2	-	44.0	51.3	42.0	66.2	71.6	63.2
7/5/2016	4:09:00 PM	55.1	58.5	53.9	51.9	55.6	49.6	60.4	73.5	-	57.2	60.2	-	43.5	46.2	41.8	65.8	70.4	63.3
7/5/2016	4:10:00 PM	54.6	56.7	53.0	51.8	54.6	49.9	53.8	59.6	-	57.5	60.0	-	44.8	48.5	42.1	66.0	69.1	63.7
7/5/2016	4:11:00 PM	54.4	57.9	52.9	54.6	64.3	49.8	53.2	62.1	-	58.2	67.7	-	44.0	48.5	41.9	65.5	69.5	63.2
7/5/2016	4:12:00 PM	54.1	60.0	53.0	55.4	60.6	51.0	50.8	53.8	-	58.4	64.4	-	44.0	53.2	42.1	66.1	74.5	63.7
7/5/2016	4:13:00 PM	53.9	56.1	52.9	56.1	63.9	50.7	52.6	55.8	-	55.9	60.0	-	42.8	45.4	41.1	66.2	72.8	63.5
7/5/2016	4:14:00 PM	54.1	57.5	52.9	55.8	64.0	50.2	52.7	56.0	-	56.1	59.1	-	44.1	53.0	41.8	66.4	71.1	63.9
7/5/2016	4:15:00 PM	67.7	77.3	54.1	53.7	58.0	50.4	52.3	60.5	-	56.4	60.0	-	44.1	56.0	42.2	66.0	69.8	63.8

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Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	4:16:00 PM	68.4	71.3	66.9	56.8	64.6	53.3	51.7	55.5	-	55.3	58.3	-	43.4	47.0	41.6	67.2	72.0	63.9
7/5/2016	4:17:00 PM	64.6	76.3	53.1	57.0	67.8	50.7	49.6	52.3	-	55.9	61.8	-	43.3	47.8	41.2	66.9	71.6	64.3
7/5/2016	4:18:00 PM	54.9	58.8	53.4	56.8	65.0	50.1	51.7	58.1	-	56.1	62.3	-	42.9	46.3	41.0	66.7	72.2	64.2
7/5/2016	4:19:00 PM	55.7	61.0	53.1	59.3	67.4	53.4	50.9	53.8	-	55.7	58.5	-	43.3	46.1	40.7	66.1	70.7	63.6
7/5/2016	4:20:00 PM	55.6	60.9	53.1	59.0	63.6	52.2	53.0	57.0	-	55.9	59.8	-	43.4	48.7	41.3	65.8	74.8	63.4
7/5/2016	4:21:00 PM	56.1	72.9	52.5	58.7	66.6	51.3	57.6	70.5	-	56.0	66.5	-	44.6	52.3	41.5	66.0	72.3	63.2
7/5/2016	4:22:00 PM	53.3	55.1	52.3	56.4	65.5	50.7	53.6	62.1	-	59.2	72.8	-	44.6	46.9	42.3	66.6	77.5	63.2
7/5/2016	4:23:00 PM	55.3	70.8	53.0	56.2	60.4	52.0	53.0	57.1	-	56.7	64.4	-	43.9	46.7	42.1	66.6	76.1	63.8
7/5/2016	4:24:00 PM	54.0	55.3	52.9	59.8	64.3	55.3	50.4	54.1	-	56.1	60.8	-	43.5	54.2	41.2	66.1	71.5	63.0
7/5/2016	4:25:00 PM	54.5	57.5	53.0	57.7	63.9	52.5	51.5	54.2	-	58.0	68.2	-	43.1	45.5	41.0	65.4	69.5	62.6
7/5/2016	4:26:00 PM	53.6	56.0	52.4	60.5	66.9	54.3	51.5	55.1	-	55.7	63.1	-	43.2	45.5	41.2	65.7	71.4	62.8
7/5/2016	4:27:00 PM	54.3	63.4	52.4	59.4	70.0	52.9	50.3	55.6	-	56.6	60.1	-	45.4	49.8	42.3	65.4	71.9	63.5
7/5/2016	4:28:00 PM	54.2	56.6	52.6	56.9	63.7	52.3	52.6	56.9	-	57.9	67.3	-	43.7	46.2	41.9	65.9	72.7	63.2
7/5/2016	4:29:00 PM	53.6	55.9	52.6	56.8	65.7	52.1	52.2	56.8	-	56.5	63.4	-	43.4	49.4	41.1	65.6	73.2	63.1
7/5/2016	4:30:00 PM	53.1	54.8	51.5	53.4	62.5	49.6	52.2	55.4	-	56.9	63.8	-	43.0	47.1	41.3	66.1	71.5	63.0
7/5/2016	4:31:00 PM	53.6	55.1	52.5	58.2	66.6	53.2	52.6	57.7	-	57.2	66.0	-	44.9	48.6	42.3	65.3	68.9	62.8
7/5/2016	4:32:00 PM	53.8	55.7	52.8	55.8	65.6	51.3	51.8	56.2	-	56.5	61.4	-	44.3	49.2	42.1	66.1	73.7	62.8
7/5/2016	4:33:00 PM	53.7	69.3	51.8	57.5	68.5	50.7	51.6	55.8	-	59.7	70.7	-	44.1	48.2	41.4	65.7	72.4	62.7
7/5/2016	4:34:00 PM	53.9	63.3	52.4	57.3	63.1	53.6	53.8	62.7	-	59.2	70.2	-	43.2	45.8	41.3	65.9	70.9	63.0
7/5/2016	4:35:00 PM	54.0	65.0	52.6	53.9	60.8	49.6	52.4	55.6	-	57.6	65.4	-	43.5	49.6	41.3	65.6	72.9	63.1
7/5/2016	4:36:00 PM	55.3	66.8	52.5	52.7	58.0	49.7	52.5	58.5	-	58.2	62.7	-	44.0	52.9	42.1	66.1	71.2	63.6
7/5/2016	4:37:00 PM	53.3	57.3	52.3	55.1	58.8	51.6	50.2	54.6	-	57.1	60.5	-	44.2	48.0	41.9	65.3	72.3	62.5
7/5/2016	4:38:00 PM	55.6	73.7	52.4	59.9	65.9	55.5	52.5	59.7	-	57.6	61.3	-	45.1	47.8	42.6	64.7	70.5	61.8
7/5/2016	4:39:00 PM	54.1	61.6	52.8	60.9	71.0	54.5	51.5	56.1	-	57.0	60.6	-	44.7	47.3	42.7	65.7	73.2	63.5
7/5/2016	4:40:00 PM	53.7	56.9	52.3	63.4	71.1	56.7	51.5	56.3	-	60.5	76.7	-	44.2	48.0	42.2	65.4	70.1	63.1
7/5/2016	4:41:00 PM	54.6	63.6	52.7	59.4	64.9	53.9	51.1	58.6	-	58.0	64.4	-	43.9	49.8	41.5	66.0	74.4	63.4
7/5/2016	4:42:00 PM	53.9	55.9	52.0	54.9	58.9	50.2	50.8	55.5	-	57.2	62.3	-	45.9	66.3	41.3	65.1	71.4	62.9
7/5/2016	4:43:00 PM	53.6	57.0	52.7	56.6	65.3	50.0	50.2	54.2	-	57.6	63.2	-	43.4	52.4	40.9	66.5	71.4	62.9
7/5/2016	4:44:00 PM	53.7	55.4	52.7	55.6	61.2	51.5	51.7	55.0	-	57.6	64.3	-	42.9	44.6	41.3	65.6	68.3	63.2
7/5/2016	4:45:00 PM	54.0	55.8	52.8	64.0	71.5	56.1	52.7	59.1	-	57.8	61.1	-	43.6	48.7	42.0	65.6	69.1	62.6
7/5/2016	4:46:00 PM	54.0	57.1	52.9	54.8	66.2	50.5	57.4	64.9	-	57.7	63.0	-	44.1	50.7	40.9	65.7	72.3	63.2
7/5/2016	4:47:00 PM	53.3	56.4	51.9	55.7	63.8	49.8	51.8	56.1	-	57.7	61.2	-	43.8	46.0	42.2	65.1	71.1	62.9
7/5/2016	4:48:00 PM	54.4	58.8	53.0	53.8	60.5	49.0	52.1	55.7	-	56.8	59.6	-	43.5	46.7	41.6	64.9	72.1	62.6
7/5/2016	4:49:00 PM	54.0	61.2	52.5	52.3	59.7	48.6	53.3	60.1	-	56.5	59.2	-	44.4	57.9	41.3	65.1	72.9	62.5
7/5/2016	4:50:00 PM	53.8	59.1	52.7	51.7	55.3	49.1	51.2	56.2	-	59.3	67.0	-	43.3	48.2	41.2	65.6	70.2	63.3
7/5/2016	4:51:00 PM	53.3	54.7	52.3	52.0	55.3	49.6	53.5	60.0	-	57.5	65.4	-	42.9	46.7	41.3	65.1	69.5	61.0
7/5/2016	4:52:00 PM	53.8	57.0	52.6	55.7	60.7	50.8	50.7	53.9	-	57.1	63.6	-	42.8	45.3	41.1	65.2	69.7	62.9

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Measured Long-Term Noise Data at LT-1 through LT-6

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		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	4:53:00 PM	53.9	55.0	52.8	52.7	58.7	49.4	51.9	60.2	-	62.8	77.0	-	42.6	46.0	40.6	65.1	70.1	62.3
7/5/2016	4:54:00 PM	58.9	68.1	52.4	50.3	52.6	48.5	50.1	53.0	-	57.0	67.6	-	42.8	44.7	40.6	65.4	72.3	63.2
7/5/2016	4:55:00 PM	53.5	61.1	51.7	50.8	56.8	48.4	50.3	52.6	-	57.2	65.5	-	43.2	45.1	41.3	65.4	69.9	63.1
7/5/2016	4:56:00 PM	54.0	58.9	52.7	52.5	57.8	49.4	51.0	53.7	-	56.2	59.0	-	42.8	52.4	40.8	65.0	70.8	62.8
7/5/2016	4:57:00 PM	53.2	54.7	52.4	57.5	68.1	50.1	51.4	55.9	-	55.9	61.0	-	44.0	49.0	41.4	64.5	67.6	62.1
7/5/2016	4:58:00 PM	53.6	56.7	52.3	51.4	56.1	49.3	63.1	72.8	-	57.8	66.9	-	46.2	53.0	42.0	66.0	70.6	63.4
7/5/2016	4:59:00 PM	54.2	60.5	52.4	52.6	61.5	49.3	58.6	73.2	-	65.1	87.8	-	43.3	45.4	41.3	66.1	75.3	62.3
7/5/2016	5:00:00 PM	58.8	71.4	52.5	56.8	63.9	51.5	54.1	69.3	-	57.8	64.6	-	42.2	45.5	40.5	65.3	70.5	61.3
7/5/2016	5:01:00 PM	59.1	73.5	52.9	58.1	64.3	50.6	59.9	75.4	-	57.5	61.8	-	42.5	46.0	40.5	65.8	72.4	62.6
7/5/2016	5:02:00 PM	53.8	56.3	52.7	54.6	62.0	50.4	52.0	56.9	-	57.7	72.8	-	44.7	51.6	41.2	65.6	70.5	62.3
7/5/2016	5:03:00 PM	53.4	56.0	51.8	60.0	66.8	51.6	57.1	71.8	-	57.3	65.5	-	43.2	50.1	41.0	66.1	69.9	62.9
7/5/2016	5:04:00 PM	54.2	57.7	52.8	52.3	55.4	49.1	56.0	64.6	-	56.8	61.4	-	44.3	55.3	40.6	65.1	71.2	62.5
7/5/2016	5:05:00 PM	53.5	56.3	52.0	55.0	64.6	50.0	52.2	54.6	-	57.6	64.9	-	42.8	47.6	40.8	65.7	71.7	63.0
7/5/2016	5:06:00 PM	54.0	56.1	52.4	55.8	66.8	50.3	52.0	54.4	-	60.6	71.2	-	43.6	46.1	41.3	66.0	71.3	63.4
7/5/2016	5:07:00 PM	55.0	60.0	53.3	54.0	61.1	51.0	53.1	55.4	-	62.8	77.1	-	42.9	47.7	40.7	65.2	71.8	61.9
7/5/2016	5:08:00 PM	56.5	64.8	53.3	58.3	66.4	49.7	52.2	55.5	-	60.2	72.7	-	44.3	48.6	40.8	65.6	69.4	62.9
7/5/2016	5:09:00 PM	53.5	55.8	51.9	56.6	66.7	51.3	49.3	54.1	-	58.8	68.4	-	42.8	46.1	40.7	65.2	70.8	62.5
7/5/2016	5:10:00 PM	53.5	55.7	51.7	54.1	69.9	49.3	49.9	56.8	-	58.6	68.0	-	42.9	46.8	41.3	65.7	72.6	62.7
7/5/2016	5:11:00 PM	55.1	62.3	51.4	59.4	68.5	52.1	50.2	54.6	-	59.4	66.9	-	44.6	54.1	41.7	65.5	72.8	62.9
7/5/2016	5:12:00 PM	53.3	56.3	51.5	55.8	63.4	50.2	54.3	57.0	-	58.7	66.9	-	43.8	49.8	41.3	66.2	72.3	63.3
7/5/2016	5:13:00 PM	53.9	58.2	52.7	51.8	55.0	49.4	51.9	57.5	-	59.4	70.4	-	43.1	45.2	41.3	65.7	70.7	63.3
7/5/2016	5:14:00 PM	53.4	56.5	52.5	56.9	66.9	49.5	50.5	56.7	-	58.6	67.2	-	42.9	46.0	41.0	65.5	69.5	63.0
7/5/2016	5:15:00 PM	53.3	56.2	52.4	53.0	56.9	50.3	52.8	57.4	-	56.7	60.3	-	44.2	54.5	41.1	65.9	73.8	63.0
7/5/2016	5:16:00 PM	55.0	59.5	52.6	56.4	60.8	51.0	53.1	56.9	-	56.1	59.8	-	49.6	61.5	41.4	66.7	79.0	63.1
7/5/2016	5:17:00 PM	58.5	64.4	53.4	60.5	69.1	50.6	51.2	56.7	-	60.2	74.0	-	46.1	60.2	41.9	65.1	69.3	61.2
7/5/2016	5:18:00 PM	54.6	64.0	52.9	55.6	64.6	49.6	49.8	52.5	-	58.2	67.5	-	45.9	52.6	41.3	66.0	73.7	62.6
7/5/2016	5:19:00 PM	61.4	70.0	52.8	52.6	56.7	49.3	50.4	56.8	-	56.5	62.4	-	42.4	48.8	40.4	66.0	73.4	63.0
7/5/2016	5:20:00 PM	54.6	71.0	51.7	54.9	66.0	49.8	52.1	59.3	-	57.1	60.9	-	42.9	48.9	40.4	65.7	72.2	62.2
7/5/2016	5:21:00 PM	52.7	56.9	51.4	58.8	67.5	50.8	50.7	56.7	-	56.8	62.0	-	43.4	49.3	41.0	65.5	72.6	63.4
7/5/2016	5:22:00 PM	53.7	57.3	52.8	52.0	57.6	50.0	49.9	56.0	-	58.3	65.8	-	42.6	45.4	40.8	65.0	69.3	62.3
7/5/2016	5:23:00 PM	53.1	55.2	51.4	53.2	57.9	50.4	52.1	57.2	-	56.8	60.3	-	44.7	48.6	40.9	65.7	72.8	62.7
7/5/2016	5:24:00 PM	52.8	54.5	51.8	59.6	67.7	49.1	49.3	54.7	-	56.5	59.1	-	42.4	44.8	40.6	65.9	68.6	63.8
7/5/2016	5:25:00 PM	53.6	57.0	51.9	53.4	61.1	49.5	48.4	55.3	-	56.2	59.6	-	42.7	44.9	41.0	65.1	68.0	62.4
7/5/2016	5:26:00 PM	55.8	62.1	51.6	55.7	65.8	49.2	52.4	56.4	-	56.3	59.2	-	42.3	49.8	40.5	65.9	70.5	62.6
7/5/2016	5:27:00 PM	52.8	56.1	51.7	60.8	72.8	51.0	54.5	68.8	-	57.2	61.0	-	42.9	47.0	40.2	65.6	69.8	62.5
7/5/2016	5:28:00 PM	54.9	58.7	52.6	64.0	74.3	49.8	53.3	60.6	-	66.7	74.0	-	42.0	44.0	40.5	65.6	69.7	62.6
7/5/2016	5:29:00 PM	53.9	58.7	52.3	53.9	60.2	49.0	53.3	58.0	-	66.6	71.0	-	42.6	46.7	40.5	65.7	69.9	62.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	5:30:00 PM	53.9	60.6	52.1	49.6	54.4	47.8	53.9	60.2	-	65.9	78.5	-	45.3	62.2	40.8	66.4	72.0	63.4
7/5/2016	5:31:00 PM	53.6	58.9	51.7	51.3	58.9	48.9	52.6	55.4	-	56.2	58.6	-	49.5	55.8	41.6	65.6	73.6	61.6
7/5/2016	5:32:00 PM	53.9	60.0	51.9	52.9	59.2	48.7	50.7	53.8	-	56.8	59.4	-	44.5	50.6	40.5	66.7	70.6	64.0
7/5/2016	5:33:00 PM	54.1	65.2	51.7	51.9	56.9	49.9	52.6	56.5	-	56.5	59.8	-	43.6	52.6	40.7	66.0	72.6	62.3
7/5/2016	5:34:00 PM	52.7	54.0	51.7	52.2	55.6	50.0	50.7	57.7	-	56.9	59.6	-	42.3	47.1	40.6	65.7	72.9	62.4
7/5/2016	5:35:00 PM	52.9	58.3	51.5	53.3	57.8	50.2	51.7	58.8	-	55.9	58.4	-	42.5	48.1	40.8	65.5	73.4	62.6
7/5/2016	5:36:00 PM	53.7	57.7	52.4	61.2	66.2	52.0	50.3	53.7	-	56.1	59.5	-	43.4	58.3	41.0	65.9	73.2	62.5
7/5/2016	5:37:00 PM	53.6	57.9	52.1	60.3	65.8	54.8	50.6	56.7	-	57.4	62.1	-	43.0	47.7	41.1	64.9	71.5	61.8
7/5/2016	5:38:00 PM	54.0	56.7	52.0	63.2	67.2	55.7	49.3	54.3	-	56.1	58.5	-	42.5	46.0	40.4	65.5	72.0	62.2
7/5/2016	5:39:00 PM	54.1	55.6	52.8	55.9	67.1	52.0	54.4	67.8	-	56.3	60.4	-	43.2	54.2	40.8	65.7	68.7	63.4
7/5/2016	5:40:00 PM	52.9	55.8	51.5	60.0	73.4	53.2	51.6	59.2	-	57.3	59.4	-	43.1	53.5	41.0	65.6	70.3	62.4
7/5/2016	5:41:00 PM	52.8	54.4	51.3	58.1	68.4	52.4	53.6	65.4	-	56.9	59.1	-	42.9	46.4	41.1	65.7	69.3	63.2
7/5/2016	5:42:00 PM	53.9	55.2	52.9	54.5	58.3	51.9	52.5	64.6	-	56.8	60.1	-	45.5	51.6	41.3	65.2	70.8	63.1
7/5/2016	5:43:00 PM	53.0	54.6	51.4	53.1	55.7	50.8	57.3	70.5	-	56.6	58.8	-	42.8	48.1	40.7	66.0	70.6	63.0
7/5/2016	5:44:00 PM	52.7	55.6	51.5	52.8	59.4	49.8	58.1	74.1	-	56.3	59.7	-	42.8	46.4	40.7	65.1	68.4	62.2
7/5/2016	5:45:00 PM	53.2	57.0	51.8	61.7	72.6	50.6	52.1	63.3	-	60.1	73.8	-	43.4	58.3	40.8	65.6	69.8	62.2
7/5/2016	5:46:00 PM	52.4	56.0	51.4	53.9	58.1	50.4	54.5	74.2	-	57.0	73.3	-	45.5	58.6	41.7	65.2	71.8	62.3
7/5/2016	5:47:00 PM	54.0	62.9	51.7	52.0	55.9	49.2	51.4	64.1	-	57.1	66.1	-	42.8	45.8	40.9	65.2	70.9	62.6
7/5/2016	5:48:00 PM	52.2	54.7	51.3	52.3	57.2	49.2	48.4	52.3	-	59.7	71.8	-	41.8	51.3	39.8	65.7	68.5	63.6
7/5/2016	5:49:00 PM	54.2	56.9	51.6	50.5	53.8	48.5	50.3	57.1	-	58.1	70.3	-	42.2	49.6	40.2	64.6	68.5	62.2
7/5/2016	5:50:00 PM	53.4	54.8	52.4	50.7	54.3	48.3	53.2	64.1	-	56.5	64.6	-	44.3	60.5	40.6	65.5	70.0	62.2
7/5/2016	5:51:00 PM	53.5	54.5	52.6	52.6	57.7	48.8	55.6	68.6	-	56.8	59.6	-	42.3	46.2	40.2	65.6	68.8	62.7
7/5/2016	5:52:00 PM	53.8	55.6	52.9	60.6	68.4	52.8	55.3	66.2	-	56.3	60.1	-	42.1	52.2	39.9	66.3	70.7	63.1
7/5/2016	5:53:00 PM	53.1	55.7	51.4	58.5	69.0	50.1	60.0	69.9	-	55.9	59.2	-	45.5	58.8	40.5	65.5	69.5	62.2
7/5/2016	5:54:00 PM	53.0	67.5	51.3	55.0	62.0	49.4	53.4	63.0	-	56.6	59.8	-	42.4	44.9	40.5	65.4	69.3	62.5
7/5/2016	5:55:00 PM	53.4	58.1	51.9	53.9	60.6	49.6	55.0	63.2	-	56.2	60.0	-	42.6	47.6	40.1	66.5	74.6	62.8
7/5/2016	5:56:00 PM	53.2	66.5	51.6	55.0	63.0	49.5	50.3	56.6	-	56.4	61.6	-	41.9	43.6	40.2	65.5	68.8	61.9
7/5/2016	5:57:00 PM	55.1	63.3	52.1	58.5	68.0	50.8	52.1	56.1	-	57.4	60.3	-	42.7	50.8	40.7	64.8	69.9	62.0
7/5/2016	5:58:00 PM	62.5	72.4	52.5	51.8	59.4	48.5	51.5	63.4	-	57.4	65.3	-	42.5	44.6	40.6	65.4	70.2	62.4
7/5/2016	5:59:00 PM	54.1	61.0	52.1	53.9	62.9	49.1	50.7	60.8	-	57.4	62.0	-	41.7	43.8	39.8	65.6	69.2	63.2
7/5/2016	6:00:00 PM	54.7	63.1	52.1	50.0	54.7	48.1	53.8	69.3	-	57.5	66.4	-	41.5	44.0	39.7	65.3	70.6	62.4
7/5/2016	6:01:00 PM	53.0	55.1	51.9	56.2	69.8	48.3	48.1	60.5	-	56.2	61.3	-	41.7	51.5	39.9	65.6	71.4	62.8
7/5/2016	6:02:00 PM	52.7	55.2	51.6	51.6	55.8	49.2	49.5	54.4	-	57.8	63.6	-	42.9	47.5	40.0	65.1	68.2	62.0
7/5/2016	6:03:00 PM	52.5	56.6	51.4	54.3	62.4	48.8	49.8	54.3	-	59.7	71.3	-	44.0	50.3	40.8	65.5	69.4	62.9
7/5/2016	6:04:00 PM	53.1	55.9	51.6	60.4	68.1	51.0	49.9	58.8	-	70.5	82.7	-	42.3	45.7	40.6	65.5	69.6	62.5
7/5/2016	6:05:00 PM	53.6	57.6	51.7	56.3	68.3	49.2	49.5	53.2	-	59.2	69.1	-	42.2	46.4	40.4	66.0	71.1	62.5
7/5/2016	6:06:00 PM	52.5	54.9	51.6	53.1	57.2	49.5	47.3	50.9	-	57.7	61.4	-	43.1	50.5	40.5	65.5	72.6	60.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	6:07:00 PM	55.1	74.4	51.4	60.8	70.1	52.6	49.8	59.2	-	58.9	71.7	-	41.8	44.4	40.1	66.2	73.1	63.3
7/5/2016	6:08:00 PM	52.7	56.1	51.3	60.7	69.6	53.6	48.6	62.2	-	58.3	67.2	-	42.2	44.1	40.6	65.4	69.2	62.8
7/5/2016	6:09:00 PM	53.7	61.3	51.9	57.6	63.7	51.1	50.8	56.3	-	56.6	59.1	-	42.9	45.5	40.8	66.0	69.2	63.7
7/5/2016	6:10:00 PM	54.2	62.5	51.8	53.6	61.4	49.4	48.1	53.0	-	56.1	58.4	-	42.1	44.1	40.2	65.9	71.3	62.8
7/5/2016	6:11:00 PM	52.9	55.2	51.7	50.9	52.6	48.6	47.7	53.1	-	57.3	61.4	-	42.7	47.6	40.7	65.7	69.8	61.1
7/5/2016	6:12:00 PM	53.1	56.8	51.7	51.0	54.9	48.6	48.9	55.1	-	59.3	71.7	-	42.4	44.5	40.5	66.3	69.8	63.6
7/5/2016	6:13:00 PM	53.0	64.5	51.7	51.9	57.6	48.4	48.2	57.7	-	56.7	60.2	-	44.2	47.1	41.2	65.7	70.5	63.1
7/5/2016	6:14:00 PM	52.5	54.0	51.6	50.3	52.9	47.7	47.6	49.7	-	57.0	60.5	-	42.9	52.4	41.0	66.3	72.3	62.7
7/5/2016	6:15:00 PM	52.6	55.0	51.5	56.3	63.8	48.0	48.9	55.8	-	57.3	61.5	-	43.5	47.9	40.8	66.1	72.8	63.1
7/5/2016	6:16:00 PM	53.0	55.3	51.4	51.6	58.2	48.0	49.1	51.5	-	58.1	62.4	-	42.3	45.3	40.5	65.6	69.8	62.1
7/5/2016	6:17:00 PM	65.6	80.0	52.1	53.2	59.7	48.1	49.8	52.6	-	57.1	66.2	-	42.6	49.7	40.9	65.4	69.0	62.8
7/5/2016	6:18:00 PM	54.1	69.8	52.1	50.1	55.9	47.6	51.7	59.2	-	58.2	62.2	-	42.2	46.9	39.7	65.6	69.1	62.4
7/5/2016	6:19:00 PM	57.3	64.8	51.9	55.0	63.0	49.6	49.0	57.1	-	57.7	61.6	-	42.2	46.0	40.0	75.4	94.0	62.1
7/5/2016	6:20:00 PM	54.0	66.0	51.7	59.1	67.0	50.0	48.9	61.3	-	57.0	59.9	-	42.8	50.3	40.9	72.1	88.0	61.6
7/5/2016	6:21:00 PM	58.7	71.4	52.2	60.6	68.3	52.0	53.3	64.9	-	56.7	60.2	-	42.8	51.0	40.5	66.1	70.6	63.0
7/5/2016	6:22:00 PM	54.0	59.1	52.1	56.1	65.8	51.6	51.7	64.9	-	57.5	66.1	-	42.4	44.5	40.5	66.2	71.0	62.3
7/5/2016	6:23:00 PM	53.7	56.7	52.4	53.6	61.4	50.8	50.8	63.3	-	57.3	62.0	-	42.3	46.9	40.1	66.0	69.4	63.0
7/5/2016	6:24:00 PM	54.5	57.8	52.4	55.1	61.8	50.4	56.2	70.9	-	57.0	59.6	-	42.9	51.4	40.7	66.8	73.2	62.8
7/5/2016	6:25:00 PM	57.0	65.0	52.3	59.8	68.7	51.6	61.0	78.0	-	56.1	58.3	-	43.0	45.9	41.1	67.3	77.0	62.8
7/5/2016	6:26:00 PM	55.7	67.4	52.3	54.9	60.9	50.6	52.8	62.9	-	58.3	67.0	-	42.4	44.8	40.6	66.9	73.2	63.5
7/5/2016	6:27:00 PM	65.8	75.7	52.4	59.8	70.6	49.1	56.0	63.6	-	56.9	63.9	-	42.7	49.2	40.9	66.4	71.0	63.1
7/5/2016	6:28:00 PM	53.2	55.1	52.2	54.9	66.7	51.2	50.9	58.4	-	56.9	61.7	-	43.5	49.8	41.4	65.7	69.9	61.9
7/5/2016	6:29:00 PM	54.1	58.8	52.0	53.4	61.1	49.8	51.4	61.9	-	56.2	61.3	-	50.5	57.4	42.2	66.2	70.0	62.8
7/5/2016	6:30:00 PM	53.3	55.9	51.9	49.9	53.5	47.3	53.3	63.8	-	57.2	61.0	-	45.9	51.5	41.5	65.5	70.4	61.1
7/5/2016	6:31:00 PM	53.9	60.4	51.8	51.8	58.3	48.7	54.7	64.3	-	57.7	60.5	-	42.0	44.5	39.7	66.3	72.9	61.0
7/5/2016	6:32:00 PM	56.6	64.6	52.1	52.0	56.9	48.5	52.0	62.0	-	55.5	61.6	-	42.4	45.8	40.2	66.3	71.0	61.4
7/5/2016	6:33:00 PM	52.7	54.0	51.6	62.6	73.3	51.1	51.5	59.8	-	56.2	60.2	-	42.5	44.7	40.5	65.5	69.8	62.3
7/5/2016	6:34:00 PM	53.0	57.9	51.5	55.9	63.4	50.5	50.7	56.1	-	56.2	61.8	-	44.7	49.1	41.2	68.0	75.0	63.8
7/5/2016	6:35:00 PM	54.4	65.0	51.4	51.1	53.6	48.6	48.5	53.3	-	56.0	58.1	-	53.5	62.5	44.6	65.5	69.6	62.2
7/5/2016	6:36:00 PM	52.4	55.6	51.4	54.4	63.2	49.9	47.6	51.4	-	57.2	59.8	-	66.3	74.7	49.2	66.0	69.8	61.2
7/5/2016	6:37:00 PM	54.5	61.7	51.4	53.0	59.7	50.6	53.1	60.3	-	58.1	62.8	-	46.6	56.6	41.6	66.0	74.1	61.7
7/5/2016	6:38:00 PM	54.2	62.7	51.6	57.6	68.9	51.1	62.7	71.9	-	57.0	60.5	-	42.6	45.7	40.7	66.2	71.7	62.9
7/5/2016	6:39:00 PM	53.9	58.0	52.2	57.0	67.6	50.3	50.8	68.7	-	56.8	61.2	-	42.8	46.9	41.0	66.1	71.4	61.0
7/5/2016	6:40:00 PM	69.2	81.2	52.0	51.3	54.9	48.9	51.0	67.6	-	58.0	65.1	-	42.5	53.7	40.4	66.1	72.2	62.7
7/5/2016	6:41:00 PM	62.9	75.0	52.2	51.4	54.3	49.1	49.9	59.5	-	56.8	58.9	-	43.7	51.9	40.9	66.2	71.9	62.0
7/5/2016	6:42:00 PM	52.8	55.8	51.6	54.1	61.8	49.7	50.8	56.5	-	56.5	62.9	-	43.0	47.8	40.4	66.7	71.2	62.0
7/5/2016	6:43:00 PM	53.0	54.6	51.9	56.4	67.0	50.8	50.3	62.1	-	58.1	67.6	-	42.8	45.3	40.5	66.7	71.8	61.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	6:44:00 PM	53.5	55.7	51.7	59.1	67.7	51.4	60.5	74.9	-	57.4	61.1	-	43.2	46.3	41.4	66.4	71.2	62.6
7/5/2016	6:45:00 PM	53.1	58.1	51.7	55.8	62.5	51.3	48.6	52.4	-	57.6	61.9	-	45.8	52.1	41.6	67.7	72.2	63.8
7/5/2016	6:46:00 PM	53.2	59.9	51.7	60.4	66.1	51.7	48.6	54.8	-	57.6	61.1	-	67.8	78.6	46.4	66.9	74.6	62.4
7/5/2016	6:47:00 PM	54.0	64.5	51.6	61.0	68.5	51.9	51.1	58.5	-	57.2	59.3	-	59.6	75.9	42.9	66.7	73.7	62.4
7/5/2016	6:48:00 PM	53.9	60.0	51.8	62.9	73.7	54.1	61.8	71.4	-	58.7	67.1	-	46.2	50.8	42.3	69.5	74.7	61.9
7/5/2016	6:49:00 PM	53.7	57.8	51.6	59.5	66.3	51.1	59.8	69.0	-	57.8	67.7	-	54.9	62.5	44.3	66.4	71.3	61.7
7/5/2016	6:50:00 PM	54.2	59.2	51.7	52.4	57.8	49.9	53.8	62.9	-	56.4	59.9	-	64.5	72.8	44.8	66.1	72.2	62.6
7/5/2016	6:51:00 PM	58.8	69.2	51.9	57.7	69.9	50.3	55.5	63.9	-	57.7	60.8	-	45.4	51.7	41.9	67.1	74.9	61.2
7/5/2016	6:52:00 PM	57.7	70.4	51.7	53.9	58.5	50.9	63.6	73.6	-	57.0	60.2	-	43.6	50.6	41.4	65.7	70.4	61.5
7/5/2016	6:53:00 PM	52.9	55.5	51.7	55.9	64.8	51.3	54.0	64.2	-	57.0	59.6	-	43.8	54.2	40.7	67.5	74.8	63.9
7/5/2016	6:54:00 PM	53.0	56.7	51.7	57.8	63.4	54.4	51.1	57.8	-	58.4	63.9	-	44.9	50.4	41.5	67.2	75.9	62.7
7/5/2016	6:55:00 PM	61.9	73.3	52.5	63.5	69.6	54.2	51.2	61.9	-	57.1	60.3	-	45.1	51.4	41.2	67.0	74.4	62.9
7/5/2016	6:56:00 PM	53.4	55.4	52.1	63.7	70.4	55.2	51.9	60.8	-	56.5	59.7	-	55.7	67.5	44.1	66.5	69.9	63.3
7/5/2016	6:57:00 PM	53.9	60.6	52.3	64.8	70.1	60.2	51.1	57.2	-	57.0	60.9	-	63.9	73.0	43.2	66.0	72.0	62.4
7/5/2016	6:58:00 PM	53.1	55.5	51.9	63.4	67.1	58.9	58.1	70.7	-	57.1	62.5	-	44.6	57.7	41.4	66.7	76.2	62.3
7/5/2016	6:59:00 PM	57.9	65.5	52.7	58.3	66.9	53.0	62.1	72.0	-	57.4	60.5	-	44.3	51.7	40.9	66.6	73.0	62.3
7/5/2016	7:00:00 PM	59.3	69.2	53.8	56.9	63.4	53.3	49.7	55.2	-	56.7	62.6	-	56.3	66.3	44.3	67.3	74.9	62.8
7/5/2016	7:01:00 PM	58.7	73.1	52.6	57.3	64.3	52.6	50.2	59.6	-	56.4	60.1	-	69.6	79.2	46.2	67.0	74.4	60.2
7/5/2016	7:02:00 PM	60.8	72.9	52.5	65.6	72.4	58.9	56.4	66.8	-	58.3	63.7	-	45.7	51.8	41.7	67.0	72.3	61.5
7/5/2016	7:03:00 PM	60.7	68.2	52.5	62.8	69.3	57.4	63.7	74.0	-	58.2	65.4	-	43.6	48.5	40.7	65.2	68.8	61.9
7/5/2016	7:04:00 PM	57.8	66.1	48.9	62.1	66.8	58.0	51.9	55.1	-	59.2	70.1	-	43.4	48.1	39.8	66.6	71.2	62.8
7/5/2016	7:05:00 PM	56.1	68.8	45.2	62.4	69.2	56.6	49.5	52.0	-	57.3	60.2	-	44.5	48.6	41.9	67.3	73.0	63.2
7/5/2016	7:06:00 PM	59.1	70.2	42.9	63.2	67.2	58.2	50.3	53.9	-	56.0	59.1	-	44.6	49.1	41.5	66.3	73.8	60.6
7/5/2016	7:07:00 PM	45.1	51.5	41.5	62.5	67.5	58.0	51.4	56.4	-	58.2	63.2	-	44.0	50.3	41.1	66.5	74.3	62.6
7/5/2016	7:08:00 PM	47.0	57.6	41.6	60.2	64.0	55.6	52.4	59.9	-	56.9	60.8	-	44.9	51.1	40.7	66.3	70.8	61.7
7/5/2016	7:09:00 PM	43.3	48.3	39.9	64.7	71.8	56.5	52.2	62.4	-	57.0	61.5	-	46.2	51.7	42.1	66.5	72.5	63.2
7/5/2016	7:10:00 PM	43.2	52.4	40.4	60.2	70.0	56.2	50.4	56.0	-	56.4	60.0	-	64.2	73.4	46.1	66.6	73.0	62.8
7/5/2016	7:11:00 PM	62.6	74.6	40.9	58.8	65.7	52.9	54.2	61.8	-	57.6	62.0	-	61.6	72.6	42.4	66.5	74.5	61.9
7/5/2016	7:12:00 PM	61.9	72.7	43.1	57.0	62.8	52.1	60.7	70.7	-	57.9	61.1	-	44.5	50.7	41.1	67.2	73.4	61.8
7/5/2016	7:13:00 PM	47.7	56.2	43.6	57.1	64.0	53.2	62.3	74.0	-	56.9	60.5	-	44.1	49.0	41.2	66.0	72.6	61.1
7/5/2016	7:14:00 PM	48.9	58.8	43.3	56.1	61.2	53.4	52.3	67.9	-	57.1	59.5	-	43.8	49.6	41.1	66.3	72.1	62.2
7/5/2016	7:15:00 PM	54.8	67.3	42.7	56.6	63.4	53.5	53.0	59.9	-	56.8	59.4	-	43.8	49.7	40.8	66.5	70.9	61.1
7/5/2016	7:16:00 PM	68.6	79.8	44.1	64.9	72.7	52.6	52.1	58.8	-	57.3	59.9	-	43.5	48.6	40.5	66.7	72.2	63.0
7/5/2016	7:17:00 PM	46.4	52.8	43.0	58.0	64.1	52.1	56.8	66.3	-	58.1	60.8	-	44.6	53.3	41.5	66.2	72.1	61.3
7/5/2016	7:18:00 PM	64.7	77.7	44.6	56.2	63.1	51.0	50.2	58.1	-	58.7	62.5	-	44.2	50.3	40.9	66.2	73.1	62.6
7/5/2016	7:19:00 PM	68.7	80.5	46.4	58.7	66.0	52.0	53.8	65.4	-	57.7	60.9	-	44.0	51.0	41.2	66.2	73.7	62.2
7/5/2016	7:20:00 PM	47.6	55.5	42.2	60.8	71.0	52.0	50.0	55.6	-	58.2	61.7	-	44.9	49.7	41.7	66.1	69.7	61.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	7:21:00 PM	46.6	53.7	43.1	60.8	69.7	50.6	50.0	57.7	-	56.9	58.7	-	50.7	60.8	43.2	67.9	75.3	62.5
7/5/2016	7:22:00 PM	51.3	57.1	43.9	54.8	58.7	51.3	49.8	62.6	-	56.5	59.1	-	68.6	78.9	54.3	66.9	72.9	62.8
7/5/2016	7:23:00 PM	52.0	67.5	43.6	60.0	69.9	51.4	53.7	64.8	-	58.0	63.3	-	49.4	59.9	42.1	65.5	70.1	60.2
7/5/2016	7:24:00 PM	47.3	58.5	43.9	64.1	71.2	59.6	64.3	74.7	-	58.2	62.0	-	43.9	51.1	40.7	66.0	69.3	62.4
7/5/2016	7:25:00 PM	47.3	58.0	43.1	61.0	65.4	56.1	55.1	65.2	-	57.6	59.6	-	46.6	52.1	41.6	66.1	71.4	62.3
7/5/2016	7:26:00 PM	53.8	72.4	45.1	63.6	72.5	55.8	54.6	62.8	-	57.5	59.8	-	44.1	49.6	41.4	66.6	72.9	61.6
7/5/2016	7:27:00 PM	59.4	68.7	44.9	57.6	64.3	51.8	52.4	62.9	-	57.0	59.6	-	44.7	55.7	40.7	66.7	74.6	61.3
7/5/2016	7:28:00 PM	46.5	52.2	43.1	60.8	69.5	52.5	50.7	57.3	-	57.6	61.2	-	43.8	49.6	41.0	66.6	70.6	61.9
7/5/2016	7:29:00 PM	47.8	54.9	42.7	57.8	61.6	53.4	55.5	65.6	-	57.7	61.4	-	51.0	58.8	41.4	66.6	74.2	60.5
7/5/2016	7:30:00 PM	47.7	54.6	43.0	62.1	71.2	53.7	51.0	61.0	-	58.1	63.0	-	44.8	53.8	40.9	67.5	75.8	60.7
7/5/2016	7:31:00 PM	57.1	74.4	43.7	57.2	69.2	48.7	53.1	61.1	-	59.0	68.8	-	44.3	50.4	41.3	67.7	72.9	60.8
7/5/2016	7:32:00 PM	50.1	58.4	44.5	61.6	70.9	51.4	49.6	53.1	-	58.1	60.8	-	53.7	65.0	42.6	67.2	74.1	62.1
7/5/2016	7:33:00 PM	54.5	67.2	46.4	51.7	54.2	49.4	49.3	57.9	-	57.1	59.3	-	69.3	79.6	49.9	66.0	70.2	61.9
7/5/2016	7:34:00 PM	48.4	63.4	42.8	56.9	66.7	50.1	54.8	61.7	-	58.8	69.1	-	47.3	55.2	42.0	66.5	72.3	61.7
7/5/2016	7:35:00 PM	46.1	53.6	43.5	61.2	70.5	53.3	65.9	79.3	-	58.5	64.9	-	43.5	47.6	41.4	66.4	70.7	62.1
7/5/2016	7:36:00 PM	50.1	64.4	43.9	57.9	67.1	49.5	53.6	57.8	-	57.4	59.4	-	44.7	48.9	40.9	66.3	72.2	59.0
7/5/2016	7:37:00 PM	47.0	55.6	40.7	62.8	71.7	50.6	53.8	58.5	-	58.4	60.4	-	43.9	47.9	40.9	67.1	73.2	61.8
7/5/2016	7:38:00 PM	60.4	70.4	41.7	55.6	65.3	50.3	52.0	56.9	-	58.4	60.7	-	43.7	47.1	41.3	66.0	72.6	61.1
7/5/2016	7:39:00 PM	47.9	56.9	42.9	50.6	53.1	48.9	51.5	56.2	-	58.4	63.5	-	43.1	45.9	40.1	66.0	73.4	62.1
7/5/2016	7:40:00 PM	46.9	56.7	41.5	51.4	56.5	48.5	52.0	59.4	-	57.7	60.9	-	43.9	46.9	42.0	67.2	72.4	62.3
7/5/2016	7:41:00 PM	44.2	49.2	41.3	64.1	71.3	50.3	49.9	53.5	-	58.1	61.7	-	43.4	49.1	41.5	67.2	71.6	62.7
7/5/2016	7:42:00 PM	45.8	50.4	41.9	64.0	72.8	54.5	50.0	53.0	-	57.4	60.0	-	55.0	68.4	41.4	67.2	77.2	62.6
7/5/2016	7:43:00 PM	48.5	60.4	43.5	53.6	60.0	49.7	52.9	56.7	-	63.3	76.0	-	63.4	73.1	45.4	66.1	74.7	61.4
7/5/2016	7:44:00 PM	47.7	53.9	42.2	55.7	61.0	49.9	56.3	64.1	-	57.9	66.3	-	45.2	51.1	41.7	66.8	72.3	62.4
7/5/2016	7:45:00 PM	45.7	50.1	42.4	53.1	63.3	49.8	63.8	72.4	-	56.9	58.9	-	43.1	47.9	40.6	66.6	75.0	60.9
7/5/2016	7:46:00 PM	46.4	50.6	42.9	65.6	71.3	51.9	53.9	59.2	-	57.9	61.5	-	42.7	45.7	40.9	66.2	72.3	61.8
7/5/2016	7:47:00 PM	45.2	54.5	41.7	58.3	66.0	50.3	52.6	59.5	-	58.9	63.4	-	43.8	46.7	41.1	67.3	72.2	63.1
7/5/2016	7:48:00 PM	46.3	56.3	42.9	52.8	60.4	48.3	50.7	54.7	-	58.4	61.0	-	43.3	50.7	41.2	66.6	71.9	60.2
7/5/2016	7:49:00 PM	45.0	49.5	43.0	60.9	69.6	49.4	50.6	54.1	-	57.2	59.2	-	42.5	46.2	40.5	67.9	75.5	61.2
7/5/2016	7:50:00 PM	51.8	60.6	43.2	53.4	59.0	48.6	50.8	55.4	-	57.3	59.4	-	43.1	46.9	40.8	66.4	76.3	62.9
7/5/2016	7:51:00 PM	47.4	54.3	42.3	59.8	68.5	49.1	50.9	55.1	-	62.0	74.1	-	43.3	53.4	40.0	66.5	70.6	62.2
7/5/2016	7:52:00 PM	45.7	52.9	42.7	57.7	65.0	52.6	51.2	58.7	-	66.4	67.9	-	43.2	47.5	41.2	66.8	70.6	63.0
7/5/2016	7:53:00 PM	45.1	53.0	41.9	64.4	73.7	52.2	49.5	55.4	-	66.3	68.2	-	42.2	45.3	40.1	66.1	71.2	61.1
7/5/2016	7:54:00 PM	47.5	59.4	41.5	54.3	60.0	50.2	50.2	57.2	-	65.8	67.2	-	43.1	46.9	41.2	66.7	71.1	61.1
7/5/2016	7:55:00 PM	53.7	65.3	41.6	52.2	57.1	48.8	47.2	55.9	-	71.1	84.7	-	44.5	53.5	41.7	66.2	70.9	61.5
7/5/2016	7:56:00 PM	44.0	53.9	40.7	52.3	59.1	49.4	48.6	51.6	-	58.5	64.6	-	42.9	49.8	40.2	66.3	78.9	61.2
7/5/2016	7:57:00 PM	47.2	66.9	40.8	60.8	67.3	53.6	49.9	56.7	-	58.2	61.0	-	42.2	45.5	40.1	65.4	70.4	58.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	7:58:00 PM	45.1	54.3	41.0	60.8	71.1	51.1	50.8	60.0	-	57.5	61.3	-	43.5	47.7	41.1	65.3	69.8	60.0
7/5/2016	7:59:00 PM	46.9	55.9	42.3	61.9	69.0	50.7	50.5	55.7	-	57.2	59.8	-	43.4	48.8	40.9	66.4	70.5	62.8
7/5/2016	8:00:00 PM	48.7	57.0	42.7	62.4	68.7	49.9	49.9	56.5	-	59.0	62.0	-	43.3	48.0	41.2	65.9	70.8	58.7
7/5/2016	8:01:00 PM	44.5	53.0	41.1	54.7	61.8	50.3	54.0	63.4	-	60.2	65.1	-	43.9	47.5	41.4	65.9	72.1	60.0
7/5/2016	8:02:00 PM	47.6	55.5	41.9	53.5	60.1	48.6	51.8	58.6	-	58.7	63.7	-	45.0	51.4	41.5	65.6	69.5	60.4
7/5/2016	8:03:00 PM	49.4	59.6	41.1	69.1	78.2	53.8	50.2	55.7	-	59.6	65.2	-	49.6	56.6	43.0	65.9	70.2	61.7
7/5/2016	8:04:00 PM	52.9	64.5	41.1	57.4	63.8	51.3	50.5	55.7	-	59.1	67.2	-	54.4	62.8	43.7	66.5	71.4	60.6
7/5/2016	8:05:00 PM	49.0	62.3	40.9	58.1	69.8	48.7	49.3	52.6	-	59.9	74.7	-	45.1	52.2	41.6	65.8	70.6	60.2
7/5/2016	8:06:00 PM	43.0	48.6	39.6	49.5	54.5	46.8	47.7	50.9	-	58.9	71.6	-	44.3	48.7	41.6	66.4	70.5	61.4
7/5/2016	8:07:00 PM	47.3	57.1	41.3	54.4	62.5	46.5	49.6	53.9	-	58.1	61.1	-	43.2	48.0	41.1	65.0	68.0	60.8
7/5/2016	8:08:00 PM	42.5	46.9	39.7	54.4	59.1	51.5	48.7	52.5	-	58.2	61.3	-	44.4	48.1	41.5	66.0	72.1	61.3
7/5/2016	8:09:00 PM	41.3	44.5	38.5	52.2	56.2	48.3	49.7	54.6	-	58.9	61.9	-	44.3	47.8	41.9	65.2	71.2	59.5
7/5/2016	8:10:00 PM	41.8	44.3	40.1	50.1	58.7	47.6	50.2	54.3	-	61.0	74.6	-	43.6	46.5	40.6	65.5	71.0	59.6
7/5/2016	8:11:00 PM	43.6	49.7	40.2	48.9	54.4	46.3	50.7	52.8	-	58.0	60.6	-	43.9	48.1	41.6	66.3	71.5	61.6
7/5/2016	8:12:00 PM	44.0	50.3	40.6	49.9	54.4	46.4	50.4	54.7	-	58.2	63.2	-	43.7	47.9	41.5	66.8	71.8	60.8
7/5/2016	8:13:00 PM	60.1	72.3	39.3	49.5	51.9	47.5	50.6	54.1	-	56.4	58.5	-	43.5	46.8	41.3	66.3	75.2	59.8
7/5/2016	8:14:00 PM	41.5	47.3	38.6	54.9	63.7	47.9	50.1	52.8	-	58.6	68.2	-	43.7	46.5	41.3	66.8	70.8	62.6
7/5/2016	8:15:00 PM	41.1	51.7	39.0	64.1	72.3	51.8	52.2	60.0	-	58.4	61.8	-	43.6	46.2	41.7	67.3	72.1	62.3
7/5/2016	8:16:00 PM	42.3	47.1	39.4	56.5	65.0	48.9	58.5	65.6	-	57.3	60.9	-	43.4	46.0	41.4	66.5	70.4	60.2
7/5/2016	8:17:00 PM	43.1	50.2	40.0	57.9	69.1	47.0	51.0	59.1	-	57.3	61.3	-	43.3	49.1	41.0	65.0	71.9	58.4
7/5/2016	8:18:00 PM	42.2	49.0	39.2	55.0	66.5	48.9	49.0	52.2	-	57.9	62.1	-	47.6	54.4	40.8	66.6	70.9	59.8
7/5/2016	8:19:00 PM	46.1	57.1	39.3	53.8	61.9	48.2	49.2	52.8	-	57.1	62.5	-	62.5	72.8	47.9	67.2	70.7	62.5
7/5/2016	8:20:00 PM	42.2	46.8	39.0	52.0	59.6	48.3	49.7	52.8	-	56.7	59.1	-	51.0	61.7	41.6	66.3	70.4	61.6
7/5/2016	8:21:00 PM	41.4	44.9	39.3	54.1	65.3	48.1	52.1	59.8	-	55.9	64.0	-	42.8	46.0	40.7	65.9	70.4	61.1
7/5/2016	8:22:00 PM	44.5	56.8	41.0	53.5	59.8	47.8	50.3	61.1	-	55.7	61.6	-	42.8	47.3	40.0	66.3	69.7	60.7
7/5/2016	8:23:00 PM	42.9	52.6	39.4	60.2	73.6	49.1	50.0	56.5	-	56.5	61.9	-	44.5	47.5	41.6	66.1	71.4	60.6
7/5/2016	8:24:00 PM	44.7	50.8	39.2	58.6	68.4	48.5	50.3	55.9	-	55.8	58.9	-	43.0	46.7	41.0	66.1	71.0	59.4
7/5/2016	8:25:00 PM	50.3	60.8	45.4	57.0	66.6	49.1	50.0	58.9	-	57.7	59.8	-	43.4	47.6	41.1	66.6	71.8	60.6
7/5/2016	8:26:00 PM	52.7	61.4	40.9	51.9	55.6	49.5	49.9	56.6	-	57.2	63.0	-	43.8	53.7	41.4	67.1	71.8	61.7
7/5/2016	8:27:00 PM	42.3	47.6	39.4	50.2	54.2	48.0	49.0	52.2	-	56.3	67.5	-	44.0	53.3	41.6	66.3	71.4	59.6
7/5/2016	8:28:00 PM	43.5	52.5	38.5	49.5	53.1	47.8	49.3	53.0	-	56.5	64.5	-	43.5	46.0	41.0	66.1	70.9	61.1
7/5/2016	8:29:00 PM	50.9	59.2	40.8	59.1	71.6	47.8	49.4	63.4	-	56.2	60.7	-	44.3	47.0	41.9	66.1	74.2	58.8
7/5/2016	8:30:00 PM	42.8	46.8	39.0	54.9	63.2	48.7	49.5	61.5	-	56.1	58.5	-	44.2	46.8	42.3	65.7	71.3	57.6
7/5/2016	8:31:00 PM	44.6	55.2	38.6	60.7	69.9	48.0	51.5	58.8	-	56.8	59.5	-	44.0	46.6	42.0	65.4	69.7	60.7
7/5/2016	8:32:00 PM	44.4	57.4	41.1	54.9	64.3	48.5	53.4	57.9	-	57.6	61.4	-	44.5	46.9	42.4	65.6	71.3	58.1
7/5/2016	8:33:00 PM	47.6	56.9	41.7	52.3	65.5	46.9	51.1	59.9	-	55.6	58.7	-	44.2	49.5	41.7	65.7	69.8	60.8
7/5/2016	8:34:00 PM	45.7	50.8	41.8	52.5	58.6	48.0	55.2	63.1	-	58.2	62.2	-	45.6	52.8	41.8	65.5	69.9	60.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	8:35:00 PM	46.7	55.7	43.0	68.2	78.3	48.5	49.6	54.6	-	56.6	61.5	-	52.5	59.1	44.6	66.0	71.8	59.2
7/5/2016	8:36:00 PM	45.8	52.2	41.5	63.0	76.0	48.1	49.5	54.7	-	57.6	61.2	-	44.5	46.9	41.9	66.7	72.2	58.7
7/5/2016	8:37:00 PM	42.9	46.6	40.8	48.5	51.2	46.7	50.4	53.3	-	56.1	61.3	-	44.0	47.6	41.9	66.0	70.9	61.3
7/5/2016	8:38:00 PM	53.8	61.5	42.0	50.4	55.4	47.3	50.5	52.9	-	56.6	59.6	-	43.2	46.2	41.3	65.9	72.1	57.7
7/5/2016	8:39:00 PM	44.9	52.0	40.5	71.1	80.0	52.4	50.2	52.6	-	56.1	59.3	-	43.6	46.6	40.6	66.8	75.9	59.3
7/5/2016	8:40:00 PM	41.2	43.9	39.4	63.7	69.6	53.0	52.3	60.5	-	57.0	61.8	-	43.3	46.3	40.8	66.1	69.8	61.5
7/5/2016	8:41:00 PM	41.6	51.9	39.7	60.8	67.6	53.5	58.9	67.4	-	57.1	60.8	-	43.3	48.7	40.7	66.9	71.6	61.1
7/5/2016	8:42:00 PM	43.2	48.7	39.4	64.2	69.7	54.8	57.5	64.6	-	55.6	60.7	-	43.7	46.5	40.8	65.8	70.7	60.5
7/5/2016	8:43:00 PM	46.4	51.9	41.1	64.8	74.3	54.8	50.3	54.6	-	54.7	59.7	-	44.9	48.2	42.0	66.4	73.0	59.1
7/5/2016	8:44:00 PM	62.3	73.2	42.8	69.3	77.8	57.6	48.0	52.1	-	55.8	60.2	-	44.2	48.0	41.7	68.7	73.8	61.1
7/5/2016	8:45:00 PM	44.6	57.2	40.6	56.9	63.0	48.5	47.8	52.6	-	58.7	68.2	-	45.4	53.4	41.5	65.6	69.6	58.9
7/5/2016	8:46:00 PM	44.8	60.0	40.4	49.3	54.2	47.3	49.0	52.1	-	58.5	71.8	-	46.2	51.6	42.0	66.8	72.7	60.1
7/5/2016	8:47:00 PM	41.9	51.0	39.3	49.7	52.4	47.7	51.0	58.4	-	56.9	63.5	-	44.1	46.6	41.9	65.8	72.1	58.5
7/5/2016	8:48:00 PM	45.1	58.5	40.0	53.0	60.0	49.0	52.1	57.6	-	55.9	61.2	-	44.6	47.7	41.1	66.5	72.1	59.2
7/5/2016	8:49:00 PM	51.8	66.8	39.5	54.4	65.2	47.5	50.0	53.2	-	55.1	57.8	-	43.9	46.6	41.3	66.9	72.6	58.7
7/5/2016	8:50:00 PM	43.5	52.0	37.9	60.6	69.7	48.9	49.1	51.5	-	55.4	58.0	-	44.1	47.9	41.0	65.2	69.9	58.0
7/5/2016	8:51:00 PM	43.2	53.7	38.0	50.5	62.7	46.5	49.4	52.1	-	56.2	61.2	-	43.5	47.1	40.8	66.3	72.4	58.6
7/5/2016	8:52:00 PM	47.2	58.6	37.2	52.3	67.6	46.1	49.5	54.9	-	55.0	57.6	-	42.7	46.4	40.4	65.6	71.3	59.9
7/5/2016	8:53:00 PM	42.0	55.0	38.6	51.0	67.6	46.6	49.2	53.3	-	54.8	60.7	-	42.8	47.8	40.2	65.5	71.3	56.6
7/5/2016	8:54:00 PM	43.8	59.3	38.5	50.7	63.4	46.9	48.5	51.2	-	54.4	57.5	-	42.7	46.9	40.1	66.3	72.2	59.4
7/5/2016	8:55:00 PM	44.3	61.0	39.8	52.9	65.8	46.9	48.0	50.4	-	55.6	61.0	-	42.8	47.0	40.2	67.2	73.8	59.5
7/5/2016	8:56:00 PM	45.0	56.2	39.9	55.5	65.1	47.8	48.4	51.5	-	54.5	60.3	-	43.1	46.8	40.6	67.0	73.1	61.0
7/5/2016	8:57:00 PM	41.6	50.1	39.2	50.6	55.1	47.7	48.7	53.1	-	54.9	58.2	-	42.9	48.4	40.2	65.4	71.2	57.7
7/5/2016	8:58:00 PM	42.4	56.0	38.1	53.5	62.6	47.8	47.2	51.8	-	56.4	66.2	-	44.0	48.6	41.7	65.2	72.0	59.8
7/5/2016	8:59:00 PM	40.7	43.2	38.6	52.3	62.9	47.2	46.1	47.8	-	54.3	58.1	-	44.2	48.1	41.9	65.4	71.1	58.8
7/5/2016	9:00:00 PM	39.9	41.9	38.0	58.5	68.4	48.7	47.0	48.9	-	54.9	57.8	-	44.4	56.0	40.7	66.4	71.7	60.6
7/5/2016	9:01:00 PM	49.1	68.0	39.1	60.9	69.3	49.3	46.7	50.1	-	54.4	59.0	-	43.4	47.3	40.7	66.6	71.9	59.7
7/5/2016	9:02:00 PM	44.9	58.8	38.5	49.5	55.3	46.3	47.1	53.5	-	56.1	58.7	-	43.8	50.1	40.4	65.8	71.2	58.7
7/5/2016	9:03:00 PM	50.5	64.0	38.7	48.3	51.6	46.4	48.0	52.5	-	57.8	63.0	-	44.0	46.9	41.7	65.4	69.6	59.8
7/5/2016	9:04:00 PM	49.2	58.8	44.7	47.6	50.9	45.3	47.4	50.7	-	55.8	58.3	-	43.8	48.8	40.8	65.8	71.5	60.3
7/5/2016	9:05:00 PM	44.6	48.3	42.3	50.3	57.3	46.0	47.8	51.3	-	55.1	59.2	-	44.2	48.3	41.5	66.4	70.1	60.9
7/5/2016	9:06:00 PM	46.5	50.1	43.9	66.5	76.0	47.6	61.5	69.9	-	55.1	58.1	-	43.1	47.5	40.5	66.2	70.9	58.9
7/5/2016	9:07:00 PM	43.4	53.0	40.7	48.0	50.7	46.3	55.2	68.4	-	55.8	59.9	-	44.0	47.8	40.6	65.2	69.4	56.0
7/5/2016	9:08:00 PM	44.9	56.1	41.6	51.9	62.0	46.3	48.2	50.6	-	57.5	63.1	-	47.4	54.1	43.1	66.0	74.1	61.1
7/5/2016	9:09:00 PM	43.0	46.7	40.6	49.6	54.3	47.0	47.9	50.0	-	69.9	78.7	-	48.4	56.3	42.2	65.8	71.8	58.7
7/5/2016	9:10:00 PM	42.8	45.4	40.5	54.8	62.5	48.4	48.9	52.4	-	55.7	59.4	-	45.1	51.5	41.1	66.4	73.7	56.3
7/5/2016	9:11:00 PM	42.6	45.7	40.8	63.0	72.7	48.7	48.4	53.3	-	55.8	58.4	-	43.0	47.7	40.2	65.6	72.8	57.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	9:12:00 PM	42.7	45.5	40.7	60.7	70.4	50.5	47.5	50.0	-	56.4	60.3	-	43.7	47.5	40.2	65.9	72.3	55.9
7/5/2016	9:13:00 PM	46.8	55.6	42.3	51.6	59.7	47.2	47.9	52.6	-	55.3	59.0	-	44.0	49.0	41.0	66.9	72.7	59.6
7/5/2016	9:14:00 PM	45.5	52.2	42.6	55.8	68.2	47.5	47.9	49.9	-	56.4	61.3	-	43.9	48.9	41.2	65.4	70.6	60.1
7/5/2016	9:15:00 PM	49.1	58.2	39.9	51.7	61.3	47.8	49.2	51.4	-	55.3	59.0	-	45.0	49.1	40.4	66.5	72.4	60.4
7/5/2016	9:16:00 PM	43.0	50.3	39.7	48.9	51.1	47.3	49.8	53.0	-	53.6	56.7	-	43.9	46.7	41.4	66.0	72.0	59.5
7/5/2016	9:17:00 PM	58.0	68.5	42.2	53.2	61.2	48.5	48.5	52.7	-	55.5	59.7	-	44.5	47.8	41.5	66.6	72.2	57.3
7/5/2016	9:18:00 PM	44.6	53.7	40.2	53.7	63.1	48.1	47.7	53.1	-	55.2	59.8	-	43.5	51.0	40.9	66.1	72.0	56.9
7/5/2016	9:19:00 PM	43.9	47.5	41.1	59.9	69.2	49.6	47.2	50.0	-	54.7	57.6	-	43.1	47.7	39.8	65.7	70.9	56.3
7/5/2016	9:20:00 PM	44.0	48.9	39.1	54.3	61.0	49.2	46.9	48.5	-	56.3	65.1	-	42.6	45.6	40.2	65.3	71.4	56.9
7/5/2016	9:21:00 PM	44.4	51.3	39.3	60.0	69.3	49.7	46.7	51.0	-	55.2	58.5	-	43.2	49.1	40.2	66.0	71.6	58.1
7/5/2016	9:22:00 PM	50.9	70.2	37.1	55.1	66.2	49.1	47.8	49.9	-	55.6	58.8	-	42.4	46.4	40.1	65.9	70.6	60.2
7/5/2016	9:23:00 PM	48.8	57.7	38.2	52.6	55.9	49.2	47.5	51.4	-	56.2	60.3	-	43.9	52.3	40.9	66.0	72.0	58.4
7/5/2016	9:24:00 PM	39.6	44.1	37.3	58.1	68.6	48.6	47.2	54.2	-	56.1	65.8	-	43.1	47.6	40.6	65.8	73.5	58.3
7/5/2016	9:25:00 PM	41.5	46.6	38.4	66.9	76.3	53.7	46.4	49.0	-	62.2	71.3	-	43.1	46.9	39.9	65.6	69.6	60.5
7/5/2016	9:26:00 PM	48.5	60.3	37.9	53.9	59.0	50.8	46.7	54.5	-	55.1	59.3	-	42.8	48.2	39.2	65.5	71.0	58.3
7/5/2016	9:27:00 PM	51.0	61.8	40.2	60.8	68.8	49.5	47.8	52.8	-	54.6	58.7	-	43.3	48.8	39.9	66.4	70.9	60.4
7/5/2016	9:28:00 PM	50.2	58.6	39.5	63.6	70.9	54.5	46.3	48.0	-	54.3	57.5	-	43.9	47.8	40.5	66.3	72.8	57.2
7/5/2016	9:29:00 PM	50.2	60.4	41.2	67.1	73.5	55.4	48.3	51.3	-	56.3	64.6	-	42.7	46.0	40.1	66.3	72.1	56.0
7/5/2016	9:30:00 PM	42.9	49.0	38.2	74.4	82.7	62.9	48.8	53.6	-	54.5	61.2	-	43.9	51.2	40.9	66.5	72.4	61.7
7/5/2016	9:31:00 PM	43.0	49.6	38.0	67.3	77.1	57.5	47.4	49.4	-	55.8	59.4	-	47.5	52.3	43.3	66.1	71.7	59.3
7/5/2016	9:32:00 PM	47.3	58.3	38.4	61.5	68.2	55.4	48.5	53.1	-	56.0	64.1	-	44.4	48.6	42.2	65.9	71.4	56.5
7/5/2016	9:33:00 PM	40.0	43.9	36.9	65.8	75.6	60.3	46.6	50.4	-	55.2	61.2	-	44.1	48.5	41.1	66.1	72.7	59.0
7/5/2016	9:34:00 PM	45.8	57.1	36.5	65.9	69.9	60.6	47.6	50.7	-	54.4	56.9	-	43.7	47.6	41.3	66.3	73.3	59.3
7/5/2016	9:35:00 PM	41.8	49.4	35.6	61.8	70.8	51.7	48.3	51.7	-	56.2	60.1	-	43.8	47.5	41.4	66.2	72.1	58.7
7/5/2016	9:36:00 PM	39.3	45.8	34.9	54.7	60.9	50.0	49.6	55.0	-	58.4	72.8	-	43.4	47.2	40.5	67.3	73.8	59.5
7/5/2016	9:37:00 PM	45.9	54.4	38.1	52.2	56.2	49.6	50.7	58.2	-	56.0	67.7	-	43.4	47.7	40.6	66.0	72.8	58.8
7/5/2016	9:38:00 PM	40.5	50.4	36.2	51.7	57.4	48.2	53.6	60.4	-	55.7	67.8	-	44.6	47.7	41.6	66.3	72.8	58.5
7/5/2016	9:39:00 PM	39.1	42.9	36.0	51.6	58.8	47.0	47.0	49.5	-	56.2	69.1	-	43.5	47.5	40.9	65.7	70.8	57.6
7/5/2016	9:40:00 PM	40.1	42.6	37.4	50.8	59.0	46.7	49.1	51.7	-	56.1	62.1	-	44.0	48.7	41.4	65.4	70.3	58.1
7/5/2016	9:41:00 PM	40.1	45.9	37.8	48.3	50.5	46.6	48.3	50.4	-	55.6	69.4	-	45.9	53.5	41.6	65.8	71.0	53.8
7/5/2016	9:42:00 PM	40.0	43.9	36.4	49.1	51.6	47.3	47.5	51.4	-	56.3	59.9	-	46.0	53.2	42.1	65.8	70.5	59.3
7/5/2016	9:43:00 PM	39.3	43.7	35.8	52.6	63.2	47.2	48.0	50.8	-	56.3	60.2	-	45.3	49.9	42.1	65.7	70.4	58.0
7/5/2016	9:44:00 PM	42.2	52.0	36.8	52.8	63.0	47.6	49.1	55.4	-	55.0	57.4	-	43.9	47.5	40.6	65.8	71.1	59.9
7/5/2016	9:45:00 PM	39.1	43.8	36.1	63.5	72.0	51.9	50.3	63.0	-	55.2	58.5	-	44.0	48.1	41.3	65.8	71.5	55.5
7/5/2016	9:46:00 PM	44.6	53.8	36.1	50.3	55.4	46.8	49.1	56.6	-	54.9	58.0	-	43.9	47.3	41.4	65.5	70.7	59.7
7/5/2016	9:47:00 PM	45.0	57.4	36.1	50.0	53.4	46.5	47.4	49.3	-	55.4	60.7	-	44.0	47.1	41.5	65.5	70.7	58.6
7/5/2016	9:48:00 PM	39.0	42.6	36.2	50.4	54.0	48.1	49.7	54.7	-	55.9	61.4	-	43.5	46.3	40.8	65.9	71.3	60.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	9:49:00 PM	40.9	46.7	38.4	52.7	60.4	47.9	49.1	53.7	-	54.3	59.2	-	44.3	48.9	40.9	66.3	70.7	61.0
7/5/2016	9:50:00 PM	41.4	45.3	37.2	51.9	60.7	46.9	49.4	53.9	-	53.6	56.8	-	44.0	47.8	41.2	66.7	72.0	58.4
7/5/2016	9:51:00 PM	39.4	42.0	37.2	55.0	65.7	48.1	52.6	60.0	-	54.7	58.6	-	45.6	50.4	41.9	66.2	71.4	60.7
7/5/2016	9:52:00 PM	40.0	43.8	37.4	54.8	64.0	49.2	49.6	56.4	-	55.4	62.5	-	44.3	47.2	41.2	66.7	72.8	59.6
7/5/2016	9:53:00 PM	45.8	50.6	39.9	51.3	55.2	48.7	51.0	58.4	-	54.8	59.0	-	44.1	48.0	41.7	67.1	72.7	59.4
7/5/2016	9:54:00 PM	44.1	46.9	40.6	67.1	77.7	49.8	50.6	58.1	-	54.7	58.6	-	43.9	47.8	41.2	66.4	72.9	58.3
7/5/2016	9:55:00 PM	42.5	46.7	38.7	57.0	63.6	50.6	45.9	50.9	-	56.2	60.8	-	43.9	46.9	41.2	66.6	72.1	57.9
7/5/2016	9:56:00 PM	46.4	58.8	40.1	59.9	67.4	50.1	46.3	48.6	-	55.7	59.6	-	44.4	48.0	41.3	66.3	72.5	58.4
7/5/2016	9:57:00 PM	41.1	49.5	37.5	52.4	58.6	48.2	45.6	48.2	-	55.5	59.3	-	44.4	47.8	41.7	66.5	72.6	59.3
7/5/2016	9:58:00 PM	44.7	53.4	38.4	50.7	57.1	47.8	46.9	51.0	-	55.4	60.0	-	44.8	50.0	42.1	66.2	72.1	57.4
7/5/2016	9:59:00 PM	39.0	41.2	36.4	52.1	61.9	47.9	47.5	50.0	-	55.0	58.3	-	44.1	47.5	41.4	66.2	71.8	57.2
7/5/2016	10:00:00 PM	38.6	41.2	36.3	50.8	54.8	49.0	46.0	48.7	-	55.2	58.1	-	46.1	50.0	42.0	65.5	71.4	57.7
7/5/2016	10:01:00 PM	39.2	49.5	36.3	50.9	53.0	48.9	46.0	48.1	-	54.9	58.2	-	44.4	49.2	41.4	65.2	71.1	57.7
7/5/2016	10:02:00 PM	39.9	45.8	36.3	49.1	51.0	47.1	47.1	49.3	-	54.6	57.5	-	44.8	48.0	41.3	65.8	71.5	56.9
7/5/2016	10:03:00 PM	41.9	51.3	35.5	61.5	72.1	46.5	47.5	49.9	-	55.4	61.1	-	43.5	48.0	40.7	66.2	72.3	60.7
7/5/2016	10:04:00 PM	40.0	42.6	37.9	58.5	69.7	49.8	45.4	48.6	-	54.8	58.2	-	43.9	48.4	41.0	66.2	72.6	55.6
7/5/2016	10:05:00 PM	45.0	55.8	38.4	49.3	55.9	46.9	45.3	48.7	-	54.9	58.2	-	43.6	48.0	40.9	66.2	71.0	58.7
7/5/2016	10:06:00 PM	39.9	45.9	35.8	50.8	55.3	47.1	45.6	48.1	-	54.3	57.3	-	43.8	48.4	40.9	66.7	73.2	57.8
7/5/2016	10:07:00 PM	40.8	49.6	35.1	47.9	50.8	46.2	45.3	47.7	-	54.0	57.7	-	44.3	47.9	41.1	66.2	72.7	57.9
7/5/2016	10:08:00 PM	39.8	48.7	34.5	53.7	62.3	47.1	46.5	49.1	-	55.0	57.7	-	44.4	49.5	41.0	65.7	72.3	57.6
7/5/2016	10:09:00 PM	41.2	45.2	36.0	48.6	50.6	46.7	46.0	48.4	-	54.9	59.2	-	43.9	47.6	40.9	66.6	72.0	57.7
7/5/2016	10:10:00 PM	44.6	48.6	37.7	48.3	51.9	46.2	46.3	52.4	-	54.9	57.7	-	44.9	48.7	41.4	66.4	72.0	57.9
7/5/2016	10:11:00 PM	41.9	45.1	38.4	51.0	55.7	47.8	48.0	51.3	-	55.8	59.5	-	44.2	46.7	41.4	65.6	71.3	57.5
7/5/2016	10:12:00 PM	42.5	45.3	38.7	65.7	76.1	48.3	46.8	50.1	-	54.0	62.0	-	43.7	48.9	40.2	65.4	70.1	57.3
7/5/2016	10:13:00 PM	41.5	47.8	35.4	59.1	69.8	48.3	45.2	48.0	-	53.3	55.9	-	43.3	46.6	40.7	66.6	71.9	59.8
7/5/2016	10:14:00 PM	47.8	60.0	34.8	50.7	62.1	46.5	44.9	46.8	-	53.8	56.7	-	44.0	55.8	40.7	66.5	70.9	56.4
7/5/2016	10:15:00 PM	45.1	53.9	39.0	61.5	72.6	48.5	47.6	53.9	-	53.9	56.9	-	43.9	47.3	40.2	67.0	73.7	60.6
7/5/2016	10:16:00 PM	43.0	49.4	38.3	58.0	67.4	47.0	47.7	60.2	-	56.1	61.7	-	43.5	47.1	39.6	65.2	70.4	57.6
7/5/2016	10:17:00 PM	42.7	48.3	39.3	50.4	53.0	46.7	45.6	47.2	-	54.4	60.3	-	44.4	49.5	41.2	65.6	68.9	58.6
7/5/2016	10:18:00 PM	40.5	51.4	38.5	51.1	53.8	48.4	46.6	49.1	-	54.5	59.2	-	44.0	47.2	41.2	65.2	69.2	56.7
7/5/2016	10:19:00 PM	40.1	42.9	36.5	54.3	62.6	49.4	46.3	51.9	-	54.4	62.9	-	45.1	49.3	41.7	66.9	72.2	57.1
7/5/2016	10:20:00 PM	48.3	61.1	37.9	52.2	56.0	49.9	46.7	51.2	-	52.9	56.6	-	44.1	48.0	40.5	65.9	72.0	60.4
7/5/2016	10:21:00 PM	47.3	67.4	38.6	53.1	56.8	50.7	47.8	52.0	-	53.9	56.9	-	44.2	48.1	40.9	65.3	70.4	56.5
7/5/2016	10:22:00 PM	45.9	66.4	37.3	61.3	75.0	49.0	47.5	50.9	-	52.9	56.8	-	44.1	48.9	41.0	65.2	69.7	56.9
7/5/2016	10:23:00 PM	39.2	49.6	36.6	64.4	74.5	53.6	46.2	49.2	-	54.7	59.4	-	44.5	48.3	41.3	66.5	72.6	54.1
7/5/2016	10:24:00 PM	45.2	54.2	37.0	54.2	61.3	50.0	46.3	50.0	-	54.1	64.1	-	44.5	49.0	41.7	65.9	71.9	58.0
7/5/2016	10:25:00 PM	50.5	63.6	38.4	53.0	63.1	49.3	47.3	51.9	-	53.3	56.3	-	43.5	46.7	39.9	66.1	71.3	58.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	10:26:00 PM	40.5	55.9	36.8	54.9	65.6	50.3	45.7	47.8	-	54.1	59.6	-	44.1	49.3	40.8	65.2	70.7	54.9
7/5/2016	10:27:00 PM	39.6	52.2	36.8	54.0	58.5	51.2	46.7	50.6	-	55.3	63.9	-	43.5	47.1	40.7	65.9	72.0	57.2
7/5/2016	10:28:00 PM	47.5	69.5	38.0	53.3	56.1	50.5	45.6	48.9	-	54.4	58.3	-	43.4	46.9	40.8	65.3	70.9	55.9
7/5/2016	10:29:00 PM	43.1	48.1	41.8	53.6	57.3	49.7	46.1	49.1	-	55.0	65.8	-	44.2	47.7	40.8	65.7	70.6	54.8
7/5/2016	10:30:00 PM	44.5	59.0	41.2	53.9	56.8	51.9	45.0	47.2	-	54.3	61.6	-	43.6	47.7	40.7	66.5	72.1	58.0
7/5/2016	10:31:00 PM	42.9	58.2	40.2	55.3	64.1	50.4	46.1	48.5	-	53.2	57.5	-	43.5	46.8	40.6	66.1	71.0	58.3
7/5/2016	10:32:00 PM	43.2	59.0	40.5	55.7	64.7	51.2	45.8	49.4	-	52.7	56.1	-	43.9	52.5	40.4	65.7	72.1	54.3
7/5/2016	10:33:00 PM	42.3	43.6	40.8	62.8	72.5	50.9	45.4	47.4	-	53.9	60.1	-	43.6	48.6	40.1	65.7	71.2	56.6
7/5/2016	10:34:00 PM	45.0	61.2	41.4	55.7	65.6	50.1	51.2	55.2	-	52.7	59.3	-	43.7	48.7	40.7	66.7	71.7	57.2
7/5/2016	10:35:00 PM	44.1	50.9	38.4	52.8	57.1	49.6	52.5	56.8	-	55.0	66.1	-	43.3	46.7	40.7	66.7	71.2	58.5
7/5/2016	10:36:00 PM	44.1	52.1	38.5	51.3	54.1	49.2	52.7	56.1	-	51.8	55.0	-	43.2	47.8	39.3	65.8	71.3	56.9
7/5/2016	10:37:00 PM	39.2	42.3	36.3	49.1	51.9	47.1	51.2	56.1	-	56.1	70.2	-	42.6	46.9	39.1	66.8	74.1	60.7
7/5/2016	10:38:00 PM	38.5	42.1	35.7	49.1	51.2	47.2	53.0	56.5	-	53.3	55.9	-	42.9	49.2	39.5	65.6	70.2	59.0
7/5/2016	10:39:00 PM	39.7	45.2	36.9	49.7	52.3	48.0	52.5	56.3	-	53.6	58.3	-	43.2	49.9	40.0	65.7	69.4	57.0
7/5/2016	10:40:00 PM	39.1	41.7	37.0	49.5	51.5	47.2	51.2	56.3	-	52.8	59.2	-	43.4	46.4	40.0	66.2	72.2	57.6
7/5/2016	10:41:00 PM	40.5	44.4	36.9	50.0	52.2	47.8	53.6	56.8	-	54.2	64.7	-	43.1	46.9	39.5	67.2	72.8	60.6
7/5/2016	10:42:00 PM	39.4	44.0	37.7	50.0	52.9	48.0	53.7	57.3	-	52.2	55.6	-	43.0	48.0	40.1	65.1	71.5	58.6
7/5/2016	10:43:00 PM	41.0	48.5	36.8	52.7	60.1	48.7	51.9	56.3	-	52.3	55.4	-	42.4	46.4	39.5	65.2	69.2	58.4
7/5/2016	10:44:00 PM	38.5	41.2	36.4	57.2	69.3	47.5	52.6	55.9	-	52.1	55.1	-	42.9	46.8	38.6	65.5	70.4	55.2
7/5/2016	10:45:00 PM	39.0	51.3	35.0	62.8	71.4	52.0	53.8	62.3	-	51.8	58.3	-	42.8	47.5	39.9	65.4	72.0	53.3
7/5/2016	10:46:00 PM	46.1	58.9	34.8	54.0	59.2	49.1	53.7	57.3	-	50.3	56.2	-	41.8	45.2	38.6	66.0	71.6	56.3
7/5/2016	10:47:00 PM	42.5	49.7	37.1	52.3	56.6	49.6	52.9	67.4	-	52.1	57.0	-	42.2	46.6	38.6	66.3	71.1	57.9
7/5/2016	10:48:00 PM	48.0	58.2	37.9	52.6	56.6	50.3	52.9	58.9	-	50.0	53.0	-	41.5	54.0	38.7	66.2	72.9	58.0
7/5/2016	10:49:00 PM	38.6	41.9	36.3	67.5	76.2	51.0	54.2	57.6	-	49.6	51.4	-	42.1	53.9	39.1	67.1	73.1	56.5
7/5/2016	10:50:00 PM	39.3	44.6	36.3	58.0	65.1	49.5	51.9	57.7	-	50.1	55.2	-	41.3	45.3	38.5	66.2	73.0	59.3
7/5/2016	10:51:00 PM	49.3	60.0	39.6	50.8	52.7	49.2	53.2	57.8	-	49.5	52.8	-	42.1	52.5	38.0	66.2	71.5	56.7
7/5/2016	10:52:00 PM	41.3	48.7	38.3	54.2	62.4	49.3	47.0	54.0	-	49.0	52.5	-	42.1	47.5	39.1	66.2	71.0	58.0
7/5/2016	10:53:00 PM	40.0	41.8	38.3	52.7	60.9	48.4	46.7	51.9	-	50.2	53.9	-	42.1	46.2	39.1	66.0	71.0	57.4
7/5/2016	10:54:00 PM	40.1	51.5	37.0	67.1	76.9	47.9	47.0	52.7	-	50.3	54.3	-	41.7	44.8	38.6	67.4	73.8	60.9
7/5/2016	10:55:00 PM	42.6	48.4	38.1	62.3	73.2	49.0	48.6	55.3	-	48.1	51.6	-	41.8	44.6	38.7	66.8	73.9	59.7
7/5/2016	10:56:00 PM	46.2	55.9	38.2	67.3	77.7	52.7	44.5	47.1	-	49.7	53.6	-	43.2	47.2	39.0	67.1	73.9	59.5
7/5/2016	10:57:00 PM	47.9	59.2	38.0	63.3	75.5	47.0	44.7	47.4	-	47.8	51.0	-	44.1	50.7	39.6	66.4	71.8	57.8
7/5/2016	10:58:00 PM	41.5	48.3	36.6	62.1	76.2	48.8	44.1	47.6	-	47.6	50.7	-	46.1	51.9	41.4	65.7	70.9	57.4
7/5/2016	10:59:00 PM	46.9	57.3	36.8	65.6	75.3	47.9	43.8	47.1	-	50.0	59.4	-	43.6	48.8	39.6	66.5	71.6	58.7
7/5/2016	11:00:00 PM	40.4	48.5	36.5	55.2	64.6	47.1	46.0	49.7	-	47.7	51.5	-	43.0	47.2	39.0	66.7	73.0	59.1
7/5/2016	11:01:00 PM	46.1	54.7	37.7	48.4	50.1	46.9	46.7	51.0	-	47.7	52.9	-	41.7	46.9	38.4	65.5	71.4	56.9
7/5/2016	11:02:00 PM	42.1	55.9	39.4	49.2	51.6	47.1	43.3	47.0	-	48.2	52.7	-	41.1	45.3	37.2	65.2	70.7	54.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	11:03:00 PM	42.2	49.6	39.6	49.4	51.3	48.0	47.6	51.6	-	47.1	50.4	-	41.4	45.5	38.2	66.5	72.5	57.0
7/5/2016	11:04:00 PM	43.3	48.0	40.5	48.9	51.5	46.9	45.4	49.4	-	48.5	55.0	-	41.1	46.7	37.3	66.6	72.1	58.1
7/5/2016	11:05:00 PM	44.8	53.2	40.4	49.8	52.7	47.9	43.7	47.3	-	50.0	55.3	-	41.5	46.1	38.4	66.6	72.3	59.0
7/5/2016	11:06:00 PM	42.2	50.2	39.7	49.8	52.5	47.9	45.1	49.8	-	47.6	50.7	-	40.5	43.8	37.4	66.9	74.1	56.4
7/5/2016	11:07:00 PM	42.0	47.1	38.7	56.8	65.9	47.5	46.1	49.3	-	48.5	55.9	-	40.2	43.8	37.7	68.0	75.1	62.1
7/5/2016	11:08:00 PM	42.3	46.6	40.2	57.0	70.7	50.0	45.3	49.8	-	47.1	56.9	-	40.2	45.3	37.7	67.4	73.2	59.2
7/5/2016	11:09:00 PM	44.9	55.4	39.5	66.4	74.4	49.8	44.1	46.0	-	46.8	50.1	-	39.8	45.4	37.1	66.8	73.5	58.9
7/5/2016	11:10:00 PM	44.5	57.5	38.7	52.1	58.9	47.6	44.0	45.9	-	46.2	51.2	-	39.6	43.3	37.0	66.7	71.7	58.7
7/5/2016	11:11:00 PM	44.5	53.5	37.7	52.9	63.1	47.3	44.5	46.8	-	46.6	50.1	-	40.0	44.5	37.5	66.0	72.1	58.2
7/5/2016	11:12:00 PM	41.8	54.5	37.5	48.2	50.2	46.4	43.6	45.6	-	46.8	52.6	-	40.0	44.7	37.2	65.4	69.0	58.6
7/5/2016	11:13:00 PM	48.4	62.2	37.7	48.7	50.5	47.2	43.3	44.7	-	47.5	51.1	-	40.5	44.3	37.3	66.3	71.3	58.5
7/5/2016	11:14:00 PM	42.6	55.4	30.9	48.8	50.9	46.9	43.5	45.4	-	47.6	51.0	-	40.2	42.6	37.9	66.0	70.7	58.0
7/5/2016	11:15:00 PM	35.3	41.3	30.6	48.9	51.1	46.6	43.6	50.9	-	48.1	55.0	-	40.9	45.8	36.9	65.5	70.7	56.1
7/5/2016	11:16:00 PM	36.0	40.4	34.2	51.4	61.0	47.2	43.0	53.5	-	47.0	50.5	-	41.7	46.9	38.4	66.0	71.4	56.2
7/5/2016	11:17:00 PM	36.0	39.7	33.9	48.2	53.2	46.4	44.5	49.9	-	46.6	50.1	-	40.1	44.4	37.4	66.0	72.3	54.8
7/5/2016	11:18:00 PM	35.4	41.1	30.6	48.0	49.7	46.2	43.9	48.8	-	46.1	48.4	-	39.7	44.6	37.0	66.8	74.0	59.8
7/5/2016	11:19:00 PM	31.8	37.4	29.6	49.0	54.7	46.3	45.6	54.8	-	48.0	56.5	-	39.4	43.6	36.5	66.2	72.5	60.7
7/5/2016	11:20:00 PM	33.4	44.4	29.3	53.4	64.0	46.4	45.8	52.2	-	47.1	49.3	-	44.5	54.0	37.9	66.0	72.8	59.2
7/5/2016	11:21:00 PM	37.5	48.8	29.3	48.4	50.4	46.7	43.2	45.4	-	47.6	53.0	-	41.9	49.9	37.9	67.3	72.3	58.5
7/5/2016	11:22:00 PM	31.0	35.7	28.9	47.4	49.3	45.7	45.0	47.9	-	46.4	50.9	-	39.5	44.2	37.2	65.9	72.6	55.8
7/5/2016	11:23:00 PM	31.0	37.3	28.6	47.5	49.8	45.4	43.0	45.7	-	46.2	50.7	-	39.9	44.4	36.5	68.0	72.3	62.8
7/5/2016	11:24:00 PM	31.4	38.1	29.3	48.6	56.1	46.3	45.1	51.7	-	46.2	51.1	-	39.9	44.9	37.2	66.7	72.6	59.5
7/5/2016	11:25:00 PM	31.7	36.5	29.1	50.4	61.0	45.8	44.0	47.2	-	47.4	53.5	-	39.5	43.3	37.0	66.5	73.2	56.0
7/5/2016	11:26:00 PM	31.9	40.4	28.9	46.9	48.6	45.3	42.9	44.6	-	44.7	47.0	-	39.9	46.2	36.9	65.4	71.1	58.0
7/5/2016	11:27:00 PM	31.5	36.8	29.1	51.2	59.3	45.8	45.8	53.4	-	46.0	48.6	-	38.9	42.6	35.7	65.9	71.5	57.8
7/5/2016	11:28:00 PM	31.7	37.2	28.7	54.8	64.2	46.4	43.2	46.2	-	46.0	55.1	-	38.9	43.4	35.8	65.1	70.6	53.9
7/5/2016	11:29:00 PM	40.2	50.9	31.1	48.7	51.7	46.8	42.4	44.2	-	44.9	49.4	-	39.2	43.0	36.4	65.9	69.6	60.5
7/5/2016	11:30:00 PM	33.4	45.8	30.3	52.5	63.1	47.2	42.8	46.2	-	45.2	54.7	-	38.7	43.5	36.1	65.3	69.0	56.7
7/5/2016	11:31:00 PM	34.4	51.8	30.4	50.3	58.1	47.3	43.1	48.0	-	44.9	48.2	-	38.8	45.7	35.4	66.5	72.7	59.9
7/5/2016	11:32:00 PM	32.5	37.5	29.5	49.0	51.2	46.5	42.8	45.5	-	46.3	51.3	-	39.0	47.2	36.2	65.6	71.8	57.8
7/5/2016	11:33:00 PM	48.5	58.0	30.4	47.2	49.8	45.3	44.0	47.4	-	45.1	48.0	-	39.8	44.3	36.2	65.2	69.8	60.3
7/5/2016	11:34:00 PM	53.9	57.0	52.5	47.3	50.2	44.4	41.7	43.7	-	45.4	48.0	-	39.6	44.1	36.0	65.7	71.4	57.0
7/5/2016	11:35:00 PM	53.8	55.4	52.6	47.8	50.4	45.3	42.7	50.6	-	45.7	52.6	-	39.6	48.3	36.4	66.5	72.4	58.4
7/5/2016	11:36:00 PM	54.6	55.7	52.7	46.7	49.6	44.7	44.0	46.9	-	46.3	56.9	-	39.6	44.1	36.5	65.7	70.9	59.7
7/5/2016	11:37:00 PM	53.0	54.6	51.7	46.8	48.5	44.9	43.8	45.9	-	45.0	53.9	-	39.3	46.4	36.4	67.1	72.9	57.4
7/5/2016	11:38:00 PM	52.4	56.5	51.4	47.9	49.8	45.8	43.4	45.9	-	45.0	49.8	-	39.0	44.1	35.7	65.4	69.6	60.6
7/5/2016	11:39:00 PM	52.2	53.1	51.4	47.9	50.0	45.7	44.3	47.3	-	44.7	48.7	-	39.8	45.6	36.2	65.8	71.0	55.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/5/2016	11:40:00 PM	52.2	53.0	51.4	54.0	62.9	46.5	43.5	57.0	-	48.8	57.4	-	39.8	43.0	36.9	65.5	70.8	59.2
7/5/2016	11:41:00 PM	52.2	53.1	51.3	47.8	49.8	46.5	43.9	48.4	-	47.1	57.3	-	39.6	46.3	36.5	66.0	70.7	58.3
7/5/2016	11:42:00 PM	52.4	53.7	51.5	55.1	62.7	47.2	44.1	47.3	-	48.1	57.4	-	39.5	46.7	37.0	65.8	72.1	59.1
7/5/2016	11:43:00 PM	52.1	53.1	51.3	48.5	56.8	46.9	42.7	44.6	-	48.8	54.1	-	39.3	43.7	36.5	66.3	71.4	58.8
7/5/2016	11:44:00 PM	52.0	52.9	51.3	48.2	49.6	46.8	43.1	46.1	-	55.8	70.5	-	39.4	44.9	36.2	67.1	71.4	61.7
7/5/2016	11:45:00 PM	52.1	53.9	51.3	48.7	51.2	46.0	42.6	45.4	-	51.0	68.0	-	39.1	44.4	36.1	65.3	70.2	58.7
7/5/2016	11:46:00 PM	52.0	52.9	51.5	48.9	50.3	47.2	44.5	49.2	-	49.4	57.6	-	39.2	44.3	36.2	65.9	70.7	59.1
7/5/2016	11:47:00 PM	52.2	55.3	51.3	48.6	50.3	47.0	44.1	46.7	-	47.6	52.6	-	38.9	45.0	35.7	66.2	71.9	61.1
7/5/2016	11:48:00 PM	52.0	53.9	51.1	49.0	54.0	46.7	45.0	48.2	-	46.9	53.0	-	39.1	44.0	35.8	67.0	72.4	59.0
7/5/2016	11:49:00 PM	51.9	52.8	51.2	49.1	50.8	47.2	44.1	46.8	-	46.8	49.6	-	39.1	44.7	36.6	66.2	72.1	57.2
7/5/2016	11:50:00 PM	51.9	52.8	51.3	48.9	55.1	46.5	44.0	45.4	-	47.1	53.1	-	39.4	43.7	36.5	66.6	72.8	59.3
7/5/2016	11:51:00 PM	51.9	53.1	51.2	53.7	65.7	45.5	42.5	44.4	-	47.3	51.6	-	40.9	48.7	36.3	65.5	71.1	60.3
7/5/2016	11:52:00 PM	52.2	54.7	51.3	48.4	50.7	46.2	42.1	45.0	-	45.8	49.7	-	39.7	47.0	35.8	66.1	71.7	58.7
7/5/2016	11:53:00 PM	51.9	55.1	51.2	52.6	60.8	46.1	42.4	44.6	-	47.0	59.1	-	38.9	43.5	36.2	65.9	72.4	54.3
7/5/2016	11:54:00 PM	51.8	53.1	51.1	50.5	61.1	45.8	43.0	45.1	-	46.9	53.3	-	39.1	44.1	36.2	66.4	72.1	61.4
7/5/2016	11:55:00 PM	51.9	52.6	51.1	54.9	64.6	47.2	42.7	45.8	-	47.2	56.5	-	38.5	42.7	36.1	66.6	72.5	56.6
7/5/2016	11:56:00 PM	51.9	52.7	51.1	48.5	51.0	46.7	46.0	54.4	-	46.8	50.8	-	39.0	45.7	36.3	66.3	71.5	59.5
7/5/2016	11:57:00 PM	51.9	52.6	51.2	49.2	51.6	47.1	43.9	45.9	-	46.8	50.9	-	38.9	43.5	35.5	66.4	73.2	57.7
7/5/2016	11:58:00 PM	51.9	53.4	51.1	48.8	50.5	47.2	44.3	46.1	-	46.7	49.5	-	38.4	43.2	35.4	66.6	72.3	60.3
7/5/2016	11:59:00 PM	51.9	52.6	51.2	48.6	50.1	46.7	45.7	56.3	-	49.4	62.6	-	38.4	42.9	35.3	65.1	70.8	56.5
7/6/2016	12:00:00 AM	51.8	52.5	51.2	48.7	50.7	47.3	42.9	45.6	-	47.8	52.0	-	38.5	43.7	35.8	66.4	72.0	60.2
7/6/2016	12:01:00 AM	51.8	52.7	51.1	48.9	50.7	47.5	43.0	47.0	-	46.9	53.3	-	38.5	43.2	35.3	65.5	71.0	57.3
7/6/2016	12:02:00 AM	51.7	52.5	51.0	49.6	51.3	47.3	44.9	54.7	-	47.6	49.5	-	38.0	41.8	35.3	64.9	69.4	59.2
7/6/2016	12:03:00 AM	51.8	52.8	51.0	48.8	50.5	47.0	44.2	50.7	-	47.1	49.9	-	38.2	42.9	34.9	67.6	73.1	62.1
7/6/2016	12:04:00 AM	52.1	52.8	51.3	48.5	50.5	46.8	42.9	46.9	-	47.6	51.1	-	37.9	43.1	35.1	67.4	73.1	59.5
7/6/2016	12:05:00 AM	51.9	52.9	51.0	48.7	50.4	47.1	44.3	52.2	-	47.5	50.0	-	37.9	41.6	35.5	66.4	71.0	61.1
7/6/2016	12:06:00 AM	51.8	52.6	51.1	50.8	58.0	46.7	45.3	55.8	-	47.5	51.1	-	38.3	42.9	35.7	66.1	69.8	59.5
7/6/2016	12:07:00 AM	51.8	52.6	51.0	53.4	62.1	48.1	42.9	44.2	-	47.9	53.1	-	38.5	42.2	36.0	66.3	70.9	61.9
7/6/2016	12:08:00 AM	51.8	52.5	51.0	50.6	57.0	48.0	45.1	52.1	-	47.4	52.5	-	38.7	45.6	36.2	66.3	71.9	59.5
7/6/2016	12:09:00 AM	51.9	52.7	51.2	52.5	62.9	47.6	45.5	55.7	-	46.8	50.2	-	38.0	43.6	35.5	65.6	72.0	58.9
7/6/2016	12:10:00 AM	52.0	52.8	51.3	49.0	55.9	47.1	44.3	48.8	-	47.2	50.7	-	38.4	46.8	35.7	65.3	70.5	58.4
7/6/2016	12:11:00 AM	52.0	52.7	51.2	48.8	50.2	47.2	45.5	49.2	-	46.3	48.7	-	38.6	44.1	35.3	65.3	69.9	57.5
7/6/2016	12:12:00 AM	52.1	52.8	51.3	47.8	49.4	46.0	45.4	55.8	-	47.1	51.7	-	37.6	43.1	35.3	67.2	72.3	61.0
7/6/2016	12:13:00 AM	52.2	53.6	51.2	48.1	50.3	45.9	43.4	48.6	-	46.8	49.2	-	37.5	41.8	35.1	66.4	71.8	60.2
7/6/2016	12:14:00 AM	52.2	53.6	51.4	47.2	49.5	44.7	43.4	51.4	-	48.1	53.8	-	38.2	42.2	35.6	66.2	71.1	60.3
7/6/2016	12:15:00 AM	51.9	57.7	51.0	47.4	49.7	45.4	46.0	55.9	-	48.2	51.3	-	38.0	43.0	35.4	65.1	70.2	57.5
7/6/2016	12:16:00 AM	51.9	52.6	51.1	48.2	50.2	46.3	43.0	46.3	-	49.3	57.9	-	38.6	45.1	36.3	66.3	70.8	59.6

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	12:17:00 AM	51.8	52.7	51.2	47.3	49.6	45.1	43.6	47.7	-	48.2	57.9	-	39.1	44.7	36.6	66.9	72.2	60.9
7/6/2016	12:18:00 AM	51.7	52.4	51.0	48.0	53.4	45.6	43.7	49.4	-	47.7	51.9	-	39.4	46.9	35.0	66.2	72.1	59.7
7/6/2016	12:19:00 AM	51.8	53.5	51.0	50.8	57.0	46.6	43.1	45.2	-	50.0	60.3	-	37.3	41.3	34.8	65.2	69.4	60.6
7/6/2016	12:20:00 AM	54.1	63.0	51.0	49.1	56.3	46.6	43.6	49.0	-	48.5	54.5	-	39.1	46.1	36.0	65.2	70.8	61.2
7/6/2016	12:21:00 AM	58.0	66.9	51.3	63.3	75.8	46.8	45.2	49.5	-	48.6	57.0	-	37.7	46.9	35.3	66.7	72.1	60.4
7/6/2016	12:22:00 AM	52.0	54.5	50.9	50.0	60.3	45.2	43.9	47.5	-	47.4	50.7	-	36.8	39.9	34.4	66.1	70.1	60.0
7/6/2016	12:23:00 AM	52.1	54.5	51.2	45.6	51.3	43.7	42.3	44.4	-	46.8	50.1	-	36.7	43.4	34.2	66.0	71.1	61.6
7/6/2016	12:24:00 AM	51.9	52.6	51.2	46.7	50.7	43.5	42.9	47.7	-	48.6	54.0	-	36.6	43.0	34.2	66.1	70.0	62.2
7/6/2016	12:25:00 AM	52.0	55.6	51.1	45.9	49.3	43.8	42.2	44.4	-	46.9	51.6	-	36.1	41.8	34.0	66.0	71.9	61.3
7/6/2016	12:26:00 AM	51.9	53.7	50.7	45.7	48.7	44.0	43.3	49.9	-	45.8	51.3	-	35.9	40.0	33.4	66.0	71.2	58.9
7/6/2016	12:27:00 AM	54.5	58.5	51.0	46.8	49.6	44.5	42.5	47.3	-	46.5	50.6	-	37.2	44.4	33.4	66.8	71.4	61.7
7/6/2016	12:28:00 AM	51.9	52.9	51.1	47.1	49.5	44.6	42.9	44.3	-	49.3	60.1	-	40.8	50.8	34.6	66.5	71.3	62.3
7/6/2016	12:29:00 AM	51.7	52.4	51.0	48.2	61.4	44.5	43.1	46.4	-	48.1	62.3	-	36.3	46.4	33.7	66.0	71.0	61.3
7/6/2016	12:30:00 AM	51.7	52.6	51.0	49.3	52.0	47.5	43.0	44.8	-	49.3	53.7	-	37.7	48.5	33.4	65.7	71.0	59.7
7/6/2016	12:31:00 AM	51.7	52.4	50.9	47.5	50.2	45.6	43.2	47.1	-	54.3	66.1	-	35.9	41.3	33.4	65.8	72.0	62.1
7/6/2016	12:32:00 AM	51.7	52.4	51.0	45.2	48.6	41.9	42.4	45.3	-	56.1	70.3	-	35.9	38.9	33.7	66.1	70.8	60.1
7/6/2016	12:33:00 AM	51.6	52.4	50.9	43.9	45.5	42.1	43.5	47.1	-	46.2	56.5	-	36.3	40.9	34.4	65.2	70.9	59.2
7/6/2016	12:34:00 AM	51.7	55.9	50.9	44.0	45.7	42.7	42.4	43.9	-	46.5	48.9	-	41.5	51.0	34.8	65.0	70.3	59.2
7/6/2016	12:35:00 AM	51.7	54.2	50.9	53.9	63.0	43.3	43.0	45.4	-	46.2	48.5	-	43.3	50.2	38.0	66.1	70.4	61.8
7/6/2016	12:36:00 AM	51.6	52.5	50.8	46.4	57.5	44.7	44.0	47.1	-	47.9	50.8	-	41.2	48.1	35.8	65.7	69.5	62.5
7/6/2016	12:37:00 AM	52.0	53.7	51.0	48.4	54.9	44.6	42.3	45.5	-	48.5	51.2	-	36.8	45.7	34.4	66.3	69.3	61.1
7/6/2016	12:38:00 AM	53.1	60.6	51.0	45.2	50.5	43.2	42.8	45.9	-	47.4	52.9	-	35.7	39.7	33.4	65.1	72.7	59.1
7/6/2016	12:39:00 AM	51.8	52.6	51.0	44.7	46.3	42.9	42.8	45.7	-	47.5	55.6	-	35.9	39.6	33.8	65.9	70.9	61.9
7/6/2016	12:40:00 AM	51.7	52.6	50.9	44.8	46.7	43.2	42.8	44.5	-	47.3	50.2	-	36.7	40.5	34.5	65.8	71.0	59.3
7/6/2016	12:41:00 AM	51.5	52.5	50.7	46.0	48.2	43.6	42.5	46.4	-	48.2	51.2	-	37.1	46.7	34.8	66.3	71.9	60.9
7/6/2016	12:42:00 AM	51.5	56.5	50.7	44.4	46.6	42.2	42.4	45.5	-	49.3	57.2	-	36.1	49.4	33.4	66.3	71.1	61.6
7/6/2016	12:43:00 AM	51.5	52.2	50.6	45.9	47.9	44.1	42.6	46.4	-	49.7	54.8	-	35.2	41.7	33.3	66.7	71.0	60.8
7/6/2016	12:44:00 AM	51.5	52.3	50.8	47.1	50.0	44.1	41.7	42.8	-	49.6	53.5	-	35.6	41.2	33.0	66.0	70.6	61.5
7/6/2016	12:45:00 AM	51.8	53.4	50.8	46.6	51.6	43.7	42.6	44.4	-	49.7	53.2	-	36.0	48.7	33.1	65.7	69.4	60.6
7/6/2016	12:46:00 AM	51.5	52.3	50.8	44.4	46.3	42.1	42.9	45.3	-	48.2	55.6	-	35.6	41.9	33.3	65.4	69.0	62.1
7/6/2016	12:47:00 AM	51.6	52.6	50.8	43.9	46.1	41.9	42.4	43.7	-	46.2	50.3	-	36.0	39.9	33.9	66.1	69.3	61.8
7/6/2016	12:48:00 AM	51.6	52.7	50.8	44.8	47.1	42.3	42.5	43.9	-	46.6	52.0	-	35.4	38.4	33.3	66.4	71.3	62.0
7/6/2016	12:49:00 AM	51.5	52.4	50.7	46.1	59.1	42.9	44.2	47.2	-	46.1	48.8	-	35.0	43.5	33.0	65.9	71.0	59.9
7/6/2016	12:50:00 AM	51.6	52.4	50.7	44.4	46.4	42.4	44.3	47.2	-	46.9	51.2	-	36.8	43.5	32.5	65.2	70.6	60.6
7/6/2016	12:51:00 AM	51.5	52.5	50.7	47.4	56.9	42.1	43.0	44.5	-	47.9	52.6	-	36.8	42.3	33.4	65.3	68.9	61.4
7/6/2016	12:52:00 AM	51.4	52.3	50.7	51.3	58.9	44.2	44.2	49.2	-	45.9	48.5	-	34.7	37.1	32.6	67.1	72.4	61.7
7/6/2016	12:53:00 AM	51.6	52.4	50.9	46.0	48.0	44.2	42.6	44.0	-	46.5	50.3	-	34.5	36.4	32.9	66.7	71.4	61.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	12:54:00 AM	51.3	52.1	50.7	44.7	46.3	43.0	43.2	45.8	-	46.2	49.4	-	34.7	39.2	33.0	66.6	72.1	61.5
7/6/2016	12:55:00 AM	51.3	52.1	50.6	44.2	46.3	43.0	43.0	44.5	-	46.2	49.0	-	35.4	40.2	33.5	66.3	70.9	60.3
7/6/2016	12:56:00 AM	51.3	52.2	50.6	44.7	47.5	43.0	42.5	43.8	-	47.0	51.9	-	35.2	39.6	33.1	65.6	71.3	60.5
7/6/2016	12:57:00 AM	51.4	52.3	50.6	45.1	47.2	43.2	42.8	44.9	-	47.8	56.0	-	34.7	39.4	32.7	66.5	72.0	55.9
7/6/2016	12:58:00 AM	51.5	52.4	50.8	44.7	46.7	43.0	43.6	45.9	-	47.5	51.8	-	35.1	43.2	32.7	66.1	72.7	60.0
7/6/2016	12:59:00 AM	51.7	52.9	50.8	44.8	46.9	42.8	45.1	51.4	-	46.2	52.0	-	35.3	38.5	33.3	65.5	70.6	61.7
7/6/2016	1:00:00 AM	51.8	53.3	50.9	44.6	46.7	42.4	44.7	53.1	-	46.8	58.1	-	34.7	43.2	32.7	65.1	70.2	60.9
7/6/2016	1:01:00 AM	51.7	52.7	50.9	46.6	48.9	44.4	44.3	47.0	-	46.2	53.8	-	34.3	39.7	32.2	65.6	69.7	59.6
7/6/2016	1:02:00 AM	51.9	52.8	51.1	47.0	49.7	44.6	45.9	48.1	-	45.1	51.1	-	33.9	37.7	31.9	65.8	71.0	59.5
7/6/2016	1:03:00 AM	52.4	58.7	50.9	45.4	48.3	43.6	50.1	70.6	-	47.8	63.8	-	34.8	40.2	32.6	65.3	68.3	62.6
7/6/2016	1:04:00 AM	54.5	61.7	51.4	44.1	46.7	41.6	46.5	50.0	-	48.6	65.8	-	34.0	40.0	31.9	65.8	70.1	62.5
7/6/2016	1:05:00 AM	52.0	53.0	51.2	43.6	45.4	41.4	45.9	49.1	-	59.6	74.4	-	35.0	39.1	32.6	65.1	68.4	60.8
7/6/2016	1:06:00 AM	52.0	53.3	51.1	45.1	48.7	41.1	48.6	63.6	-	58.4	72.0	-	34.0	39.0	31.5	65.7	68.2	62.6
7/6/2016	1:07:00 AM	52.1	53.2	51.3	46.7	49.1	44.3	47.8	51.8	-	46.7	51.7	-	34.0	36.5	32.2	66.0	70.1	62.5
7/6/2016	1:08:00 AM	52.0	52.8	51.0	48.3	50.4	46.1	49.8	70.9	-	45.5	55.9	-	41.4	54.4	32.7	66.0	70.4	60.6
7/6/2016	1:09:00 AM	51.8	52.5	51.1	48.5	50.8	46.1	48.1	55.9	-	48.0	52.7	-	36.4	43.4	32.2	65.5	69.4	61.7
7/6/2016	1:10:00 AM	51.8	52.5	51.0	47.4	49.6	45.3	46.7	49.2	-	47.1	54.0	-	34.0	37.2	32.1	65.9	69.5	62.5
7/6/2016	1:11:00 AM	51.7	52.5	50.9	48.1	49.7	46.0	48.2	61.5	-	48.3	53.9	-	34.2	40.5	31.8	65.7	70.0	62.2
7/6/2016	1:12:00 AM	51.7	54.3	50.9	49.7	51.6	46.5	47.4	49.9	-	47.4	57.8	-	35.0	41.4	33.0	65.6	70.4	61.9
7/6/2016	1:13:00 AM	51.6	52.5	50.7	46.7	50.4	42.6	45.8	50.1	-	48.2	57.0	-	34.3	41.8	31.6	65.1	70.5	60.2
7/6/2016	1:14:00 AM	51.7	52.8	50.9	48.0	50.1	45.8	47.3	57.8	-	46.2	54.0	-	34.5	44.0	31.9	66.1	69.1	61.3
7/6/2016	1:15:00 AM	51.8	52.9	50.8	45.5	48.6	43.0	49.0	54.3	-	47.7	52.1	-	34.1	41.0	32.5	66.1	70.3	61.1
7/6/2016	1:16:00 AM	52.1	53.2	51.2	44.9	47.0	42.9	48.9	54.6	-	53.4	63.1	-	34.1	40.2	32.2	65.3	69.2	61.3
7/6/2016	1:17:00 AM	52.0	52.8	51.1	44.7	46.7	42.8	50.4	55.4	-	50.3	60.8	-	35.0	42.2	31.8	64.8	69.7	61.1
7/6/2016	1:18:00 AM	52.8	54.5	51.4	45.0	47.5	43.2	50.4	54.5	-	46.0	56.0	-	34.3	37.9	32.1	65.1	69.2	61.8
7/6/2016	1:19:00 AM	52.0	54.1	51.1	44.9	46.9	43.1	49.5	53.7	-	46.4	50.2	-	34.6	40.5	32.3	66.1	70.6	62.1
7/6/2016	1:20:00 AM	52.4	54.7	51.2	45.5	47.7	43.2	49.6	53.7	-	46.2	51.4	-	33.7	36.3	31.8	66.1	74.2	61.4
7/6/2016	1:21:00 AM	51.7	52.6	50.8	46.1	48.6	44.1	50.3	55.1	-	47.2	51.0	-	33.9	47.1	31.6	65.7	76.7	59.6
7/6/2016	1:22:00 AM	51.8	54.9	51.0	49.8	53.3	47.2	50.5	55.6	-	45.6	50.4	-	34.3	39.2	32.3	65.8	71.8	60.2
7/6/2016	1:23:00 AM	51.5	52.3	50.7	53.4	56.3	51.0	49.5	53.9	-	45.8	50.5	-	34.3	37.9	32.3	66.4	71.3	61.5
7/6/2016	1:24:00 AM	51.6	52.4	50.9	51.0	53.5	48.3	50.4	56.8	-	47.7	54.4	-	34.0	37.4	32.3	65.6	76.6	59.5
7/6/2016	1:25:00 AM	51.5	52.4	50.8	49.1	51.9	46.4	51.2	56.8	-	47.0	50.9	-	34.8	37.1	33.0	65.2	73.4	59.8
7/6/2016	1:26:00 AM	51.6	52.5	50.9	47.7	50.2	45.5	50.0	53.9	-	45.9	50.2	-	34.6	38.5	32.9	65.6	75.2	61.8
7/6/2016	1:27:00 AM	51.6	52.6	50.8	47.3	49.6	45.2	50.4	54.2	-	45.4	51.4	-	35.1	41.0	33.0	65.3	73.2	60.8
7/6/2016	1:28:00 AM	52.0	55.0	51.1	46.4	49.4	43.2	51.8	56.6	-	44.7	49.4	-	34.6	38.1	32.1	65.9	72.2	61.4
7/6/2016	1:29:00 AM	51.7	53.6	50.9	50.7	62.5	43.7	43.0	45.0	-	45.3	51.9	-	33.6	42.0	31.5	65.1	70.2	61.9
7/6/2016	1:30:00 AM	51.7	54.3	50.9	45.1	47.1	42.0	43.6	49.3	-	45.4	50.5	-	33.7	40.4	31.9	65.4	73.5	61.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	1:31:00 AM	51.9	52.8	51.0	44.2	47.9	42.3	43.2	48.4	-	46.7	50.2	-	33.3	37.4	31.5	66.1	74.7	61.0
7/6/2016	1:32:00 AM	51.8	52.5	50.9	45.2	49.9	42.2	43.8	47.0	-	49.7	59.8	-	36.0	50.1	31.5	65.3	70.3	62.2
7/6/2016	1:33:00 AM	51.8	52.6	50.9	44.3	47.0	42.2	43.9	49.6	-	46.6	51.6	-	40.0	54.0	31.9	64.9	69.4	61.3
7/6/2016	1:34:00 AM	51.8	52.8	51.1	44.6	48.0	41.2	43.7	45.2	-	46.9	50.9	-	34.6	37.2	32.5	65.3	71.0	61.9
7/6/2016	1:35:00 AM	52.9	64.2	51.1	44.8	50.3	42.2	43.9	46.2	-	47.1	57.9	-	34.6	46.0	31.5	65.3	69.9	61.3
7/6/2016	1:36:00 AM	52.0	56.5	51.2	48.3	59.9	42.6	44.4	47.6	-	46.4	50.0	-	34.3	37.0	31.9	65.7	70.1	60.5
7/6/2016	1:37:00 AM	52.3	58.1	51.1	47.5	57.7	43.8	45.4	48.4	-	47.4	57.6	-	35.1	45.7	31.8	65.2	69.8	60.8
7/6/2016	1:38:00 AM	52.1	56.7	51.1	45.5	48.2	43.4	49.4	60.8	-	47.6	54.6	-	38.5	46.0	34.8	65.3	69.5	61.1
7/6/2016	1:39:00 AM	51.8	53.1	50.9	46.1	49.0	44.1	49.7	60.9	-	46.7	50.6	-	35.2	41.3	32.7	64.9	68.3	61.1
7/6/2016	1:40:00 AM	51.6	52.4	50.8	44.6	46.5	41.8	44.1	46.6	-	45.0	51.0	-	34.9	43.7	32.5	65.2	68.6	61.4
7/6/2016	1:41:00 AM	51.7	53.1	51.0	42.7	44.6	40.8	43.6	47.6	-	44.4	47.2	-	34.5	38.3	32.3	65.2	69.0	61.6
7/6/2016	1:42:00 AM	52.0	53.9	51.2	42.8	44.5	41.2	43.9	48.3	-	45.8	51.8	-	34.7	39.2	32.6	65.7	70.2	62.2
7/6/2016	1:43:00 AM	52.8	56.5	51.2	42.5	44.2	40.8	43.6	45.5	-	46.5	51.5	-	36.7	41.6	33.7	65.5	69.9	61.3
7/6/2016	1:44:00 AM	52.5	56.3	51.2	42.8	44.5	41.3	44.4	46.6	-	48.6	54.4	-	35.0	38.4	32.7	65.3	68.8	61.9
7/6/2016	1:45:00 AM	51.8	52.6	51.0	42.2	43.6	40.8	44.5	48.6	-	50.5	55.2	-	33.9	37.7	31.2	65.1	68.9	61.9
7/6/2016	1:46:00 AM	51.8	52.8	50.9	42.5	44.5	40.4	44.2	46.2	-	50.8	56.1	-	32.8	36.4	30.8	66.0	70.0	62.7
7/6/2016	1:47:00 AM	51.5	52.3	50.5	44.0	45.7	41.9	44.8	47.7	-	47.4	50.7	-	34.7	39.4	32.3	65.2	69.4	62.3
7/6/2016	1:48:00 AM	51.6	52.7	50.8	43.5	45.7	41.8	44.3	46.4	-	46.5	50.1	-	34.5	39.5	31.5	64.8	69.6	61.0
7/6/2016	1:49:00 AM	51.5	52.2	50.9	44.3	47.5	41.7	44.3	47.7	-	46.8	50.1	-	34.7	43.2	31.3	65.5	68.1	62.1
7/6/2016	1:50:00 AM	51.4	52.3	50.7	46.8	49.1	45.2	44.5	46.8	-	46.6	51.6	-	34.5	37.9	32.2	64.7	69.1	61.1
7/6/2016	1:51:00 AM	51.5	54.7	50.7	45.1	47.5	43.7	44.7	46.7	-	48.1	52.2	-	38.5	49.4	32.5	64.6	67.4	61.7
7/6/2016	1:52:00 AM	51.5	52.4	50.7	46.1	47.9	44.1	44.2	47.0	-	47.2	51.7	-	39.5	46.8	34.4	65.1	68.7	61.6
7/6/2016	1:53:00 AM	51.5	52.6	50.8	45.9	47.9	44.0	45.2	47.2	-	46.7	52.1	-	39.5	43.8	34.9	65.2	68.2	61.5
7/6/2016	1:54:00 AM	51.5	52.4	50.8	45.8	47.1	44.1	45.8	47.7	-	50.0	57.1	-	38.9	45.2	34.3	65.5	68.7	62.9
7/6/2016	1:55:00 AM	51.5	52.3	50.6	45.6	47.1	44.0	45.9	47.4	-	53.3	65.7	-	38.5	45.6	34.2	64.6	67.8	61.5
7/6/2016	1:56:00 AM	51.5	52.1	50.7	45.7	48.8	43.4	46.1	49.3	-	50.7	59.9	-	38.8	46.6	33.9	65.2	69.1	62.9
7/6/2016	1:57:00 AM	51.4	52.2	50.7	47.3	50.9	45.3	44.0	46.3	-	45.8	48.9	-	36.1	43.4	33.1	65.3	70.4	62.0
7/6/2016	1:58:00 AM	51.5	52.4	50.8	46.6	50.8	44.5	43.8	46.5	-	46.7	54.6	-	35.6	44.1	31.8	65.0	68.3	62.7
7/6/2016	1:59:00 AM	51.4	52.2	50.7	45.4	47.1	43.4	44.4	47.3	-	45.4	48.9	-	33.1	39.1	31.5	65.1	68.3	63.0
7/6/2016	2:00:00 AM	51.4	52.1	50.8	44.3	46.0	42.8	44.6	48.0	-	48.2	54.1	-	33.5	37.8	31.5	64.8	67.4	62.2
7/6/2016	2:01:00 AM	51.5	52.1	50.8	44.2	46.1	42.9	44.1	46.9	-	49.3	55.1	-	33.0	37.9	30.8	64.7	67.1	61.6
7/6/2016	2:02:00 AM	51.4	52.3	50.7	44.7	47.7	42.3	44.2	46.3	-	49.3	54.2	-	34.3	37.4	32.2	64.8	68.5	61.4
7/6/2016	2:03:00 AM	51.4	52.3	50.7	43.7	46.8	41.5	44.4	46.3	-	48.3	53.6	-	33.9	39.8	31.9	64.6	67.3	61.7
7/6/2016	2:04:00 AM	51.4	52.3	50.3	44.4	49.8	41.7	44.9	46.8	-	47.6	52.2	-	34.0	38.0	32.3	64.9	68.0	60.7
7/6/2016	2:05:00 AM	51.3	52.1	50.5	42.8	46.4	39.7	43.6	45.8	-	48.3	52.3	-	33.6	40.7	30.8	64.9	68.7	62.1
7/6/2016	2:06:00 AM	51.3	52.1	50.5	41.8	44.1	39.7	43.7	46.2	-	47.8	52.8	-	34.8	39.3	31.9	64.7	68.8	60.9
7/6/2016	2:07:00 AM	51.4	52.4	50.7	41.6	44.4	39.8	43.8	47.0	-	48.0	51.9	-	33.2	38.0	30.4	65.6	68.6	62.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	2:08:00 AM	51.4	52.1	50.7	42.7	48.8	40.1	43.1	45.7	-	48.2	51.5	-	32.1	35.3	30.0	64.8	67.7	62.8
7/6/2016	2:09:00 AM	51.4	52.5	50.7	42.6	44.7	40.5	44.1	45.7	-	49.3	54.1	-	32.6	46.1	30.3	64.9	69.1	61.8
7/6/2016	2:10:00 AM	51.5	52.3	50.6	41.9	43.8	39.9	43.5	46.5	-	46.2	51.1	-	32.1	37.0	30.0	64.9	69.2	62.2
7/6/2016	2:11:00 AM	51.4	52.2	50.8	41.0	43.2	39.1	42.6	48.8	-	46.4	51.8	-	32.6	38.1	30.3	64.5	68.7	62.3
7/6/2016	2:12:00 AM	51.5	52.3	50.8	40.3	41.9	38.6	42.7	44.9	-	47.3	52.6	-	31.8	37.9	29.8	65.0	69.5	62.3
7/6/2016	2:13:00 AM	51.6	52.4	50.8	40.5	42.7	38.5	42.1	44.8	-	47.6	51.7	-	32.4	41.0	29.1	63.9	66.8	61.9
7/6/2016	2:14:00 AM	51.5	52.3	50.7	42.7	50.1	40.0	43.2	46.2	-	48.2	55.3	-	31.7	41.1	29.1	64.2	67.9	60.7
7/6/2016	2:15:00 AM	51.5	52.5	50.7	42.0	43.7	40.0	44.8	46.5	-	46.7	50.3	-	31.9	44.4	29.3	64.9	68.0	62.3
7/6/2016	2:16:00 AM	51.4	52.1	50.7	40.3	41.8	38.2	43.7	46.0	-	47.3	53.6	-	31.0	33.7	29.5	64.3	66.9	61.3
7/6/2016	2:17:00 AM	51.6	52.4	50.8	39.0	41.9	36.9	43.1	44.6	-	47.4	51.7	-	32.3	39.5	29.8	64.4	67.9	61.7
7/6/2016	2:18:00 AM	51.5	52.5	50.8	38.7	40.8	36.8	42.4	44.7	-	46.5	54.3	-	33.2	37.4	31.6	64.4	67.3	61.3
7/6/2016	2:19:00 AM	51.6	53.1	50.8	39.5	40.9	38.2	42.6	44.5	-	44.8	48.9	-	32.5	36.1	30.4	64.5	67.1	62.1
7/6/2016	2:20:00 AM	51.5	52.3	50.7	40.8	42.9	38.7	42.8	45.6	-	48.6	52.9	-	31.8	38.1	30.3	64.6	67.8	62.2
7/6/2016	2:21:00 AM	51.5	52.3	50.8	41.2	43.1	39.5	42.9	45.1	-	49.2	52.9	-	31.6	37.9	29.1	65.2	69.5	62.4
7/6/2016	2:22:00 AM	51.5	52.4	50.7	40.4	41.9	38.9	43.1	47.1	-	48.3	53.4	-	32.5	37.5	30.3	64.1	68.2	62.1
7/6/2016	2:23:00 AM	51.5	52.2	50.7	41.3	43.8	38.7	42.5	44.9	-	48.8	52.5	-	33.4	35.8	31.2	64.8	68.0	62.2
7/6/2016	2:24:00 AM	51.5	52.3	50.8	42.1	47.9	40.1	42.7	44.8	-	49.8	54.5	-	32.5	36.6	29.8	64.5	67.1	62.7
7/6/2016	2:25:00 AM	51.7	52.7	51.0	43.2	49.3	41.0	41.9	43.9	-	47.5	53.4	-	31.3	34.8	29.5	65.1	67.8	62.3
7/6/2016	2:26:00 AM	51.7	54.7	50.8	44.1	46.0	42.0	42.9	45.8	-	48.1	52.9	-	31.3	39.3	29.1	64.2	66.6	61.2
7/6/2016	2:27:00 AM	51.7	58.4	50.8	45.4	48.4	43.7	43.0	45.1	-	47.2	52.1	-	31.0	34.3	29.1	64.5	67.3	62.6
7/6/2016	2:28:00 AM	52.9	60.7	50.8	45.6	47.9	43.3	43.1	45.8	-	47.4	53.0	-	30.9	37.8	28.6	64.5	67.0	60.4
7/6/2016	2:29:00 AM	51.7	52.5	51.1	46.2	48.4	44.4	42.4	44.6	-	53.1	61.5	-	31.9	43.3	29.1	64.1	67.2	62.1
7/6/2016	2:30:00 AM	51.7	52.4	50.8	46.9	48.7	45.3	42.7	44.6	-	50.1	58.6	-	34.7	46.6	29.6	64.5	67.1	62.6
7/6/2016	2:31:00 AM	51.5	52.4	50.8	46.2	47.7	44.6	41.9	44.2	-	47.1	51.1	-	30.9	33.5	29.1	64.5	67.2	62.5
7/6/2016	2:32:00 AM	51.7	53.7	50.8	47.2	50.0	45.0	41.5	43.2	-	48.0	53.5	-	31.0	34.4	29.1	64.4	67.0	62.7
7/6/2016	2:33:00 AM	51.4	52.1	50.6	47.2	49.1	45.8	41.6	43.9	-	48.4	53.9	-	31.1	34.5	29.1	64.7	67.9	62.2
7/6/2016	2:34:00 AM	51.4	52.2	50.7	46.4	48.8	45.0	42.5	44.4	-	48.6	58.0	-	31.9	39.6	29.6	64.8	68.9	62.4
7/6/2016	2:35:00 AM	51.4	52.3	50.6	48.5	50.2	47.0	42.9	44.7	-	53.1	62.9	-	32.0	34.9	30.0	64.3	66.3	62.1
7/6/2016	2:36:00 AM	51.4	52.2	50.8	48.0	49.8	45.9	41.6	43.1	-	48.4	52.5	-	33.5	39.4	29.8	64.4	66.9	62.4
7/6/2016	2:37:00 AM	51.4	52.1	50.6	50.9	59.6	46.7	42.0	46.1	-	50.5	54.9	-	32.9	40.7	29.5	64.9	68.0	62.8
7/6/2016	2:38:00 AM	51.5	52.4	50.6	47.5	49.6	45.6	42.5	44.4	-	46.9	51.7	-	33.0	41.0	29.3	63.7	66.3	61.5
7/6/2016	2:39:00 AM	51.5	52.4	50.7	47.9	51.1	45.5	42.0	44.5	-	47.9	52.6	-	38.2	51.6	29.5	63.7	65.6	61.6
7/6/2016	2:40:00 AM	51.4	53.0	50.6	48.5	50.5	45.6	40.9	42.1	-	47.9	51.0	-	32.1	38.7	29.3	64.7	67.4	62.2
7/6/2016	2:41:00 AM	51.4	52.3	50.7	48.2	50.5	46.7	41.5	44.0	-	47.5	51.9	-	31.0	37.2	28.7	64.3	67.9	61.8
7/6/2016	2:42:00 AM	51.4	52.2	50.6	47.3	50.2	44.8	41.4	42.9	-	48.6	52.7	-	31.9	35.5	29.8	64.6	68.1	62.3
7/6/2016	2:43:00 AM	51.4	52.3	50.8	46.9	48.9	44.9	41.1	42.4	-	49.5	53.0	-	31.8	37.5	29.8	64.0	66.1	62.0
7/6/2016	2:44:00 AM	51.6	52.7	50.8	45.2	46.7	43.7	40.8	42.8	-	51.4	70.8	-	31.4	37.5	29.6	64.1	67.1	62.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	2:45:00 AM	51.4	52.2	50.7	46.4	48.4	44.8	40.9	42.4	-	49.1	54.2	-	31.4	34.6	29.5	63.4	65.8	61.6
7/6/2016	2:46:00 AM	51.4	52.3	50.5	46.4	48.4	44.6	41.2	44.0	-	50.9	58.7	-	31.4	41.4	29.1	63.9	66.8	59.6
7/6/2016	2:47:00 AM	51.4	52.5	50.8	46.4	48.7	44.6	40.9	43.6	-	48.8	57.3	-	31.7	34.9	29.3	63.8	66.5	61.5
7/6/2016	2:48:00 AM	51.4	52.2	50.7	46.4	48.8	44.5	40.5	42.1	-	49.5	54.6	-	32.0	37.0	29.8	64.2	67.0	62.0
7/6/2016	2:49:00 AM	51.4	52.1	50.6	47.3	57.0	45.4	40.8	42.9	-	47.2	52.4	-	31.4	38.1	29.1	63.7	66.2	61.9
7/6/2016	2:50:00 AM	51.4	52.3	50.8	47.3	55.5	44.1	42.9	46.7	-	48.6	52.3	-	31.0	33.1	28.7	64.3	67.1	62.2
7/6/2016	2:51:00 AM	51.4	52.2	50.8	45.2	47.3	43.6	41.3	43.6	-	51.1	61.6	-	31.3	37.4	28.9	63.9	67.0	61.9
7/6/2016	2:52:00 AM	51.5	52.4	50.8	46.1	47.9	44.4	41.4	43.4	-	47.6	51.7	-	32.0	41.0	29.5	64.0	66.9	61.5
7/6/2016	2:53:00 AM	51.5	52.5	50.7	47.0	51.6	44.6	42.0	44.2	-	48.2	51.9	-	31.3	33.3	29.5	63.8	66.2	61.5
7/6/2016	2:54:00 AM	51.6	52.5	50.8	49.1	55.2	44.2	41.4	43.2	-	48.9	53.8	-	31.0	38.2	28.9	63.6	66.2	61.2
7/6/2016	2:55:00 AM	51.7	52.7	51.0	46.9	53.0	44.6	41.6	44.5	-	48.6	53.1	-	31.1	37.3	29.3	64.1	66.7	61.8
7/6/2016	2:56:00 AM	51.6	52.3	50.8	46.4	50.7	44.4	40.5	42.0	-	49.3	53.6	-	30.6	36.2	28.4	63.6	66.1	61.6
7/6/2016	2:57:00 AM	51.5	52.2	50.8	46.9	49.4	45.0	41.0	42.5	-	49.1	55.6	-	34.9	48.5	29.3	63.3	65.2	61.7
7/6/2016	2:58:00 AM	51.5	52.2	50.8	46.6	48.3	45.0	41.3	44.3	-	49.5	54.5	-	31.0	35.6	29.3	63.5	65.4	61.8
7/6/2016	2:59:00 AM	51.5	52.4	50.8	46.8	49.5	44.6	41.4	44.3	-	50.3	56.6	-	31.2	37.5	29.3	64.0	66.2	62.1
7/6/2016	3:00:00 AM	51.4	52.2	50.7	46.7	55.0	44.8	41.7	43.4	-	48.8	52.0	-	31.4	44.5	28.9	63.6	65.7	61.3
7/6/2016	3:01:00 AM	51.4	52.2	50.7	46.7	49.6	44.4	42.4	44.4	-	47.7	52.1	-	31.6	34.3	29.6	63.8	66.8	62.4
7/6/2016	3:02:00 AM	51.4	52.2	50.7	47.2	49.6	45.0	41.7	45.9	-	48.7	52.4	-	31.2	36.1	29.3	64.9	67.4	62.0
7/6/2016	3:03:00 AM	51.4	52.4	50.7	46.5	49.3	44.3	42.1	44.6	-	47.8	54.0	-	31.4	36.0	29.3	63.4	66.4	61.6
7/6/2016	3:04:00 AM	51.5	52.3	50.6	46.9	49.3	44.5	42.5	44.2	-	50.0	57.4	-	31.5	37.2	29.1	64.0	66.6	61.8
7/6/2016	3:05:00 AM	51.5	52.4	50.7	47.1	49.2	45.2	43.4	45.6	-	49.3	55.1	-	31.0	35.5	28.9	63.3	65.7	61.6
7/6/2016	3:06:00 AM	51.5	52.3	50.7	47.3	49.1	45.1	42.7	44.4	-	49.5	54.7	-	35.4	40.5	28.9	63.7	65.9	61.7
7/6/2016	3:07:00 AM	51.5	52.5	50.5	46.4	48.4	44.3	42.3	43.7	-	49.2	53.3	-	34.4	41.3	30.8	63.6	65.3	62.1
7/6/2016	3:08:00 AM	51.4	52.3	50.7	46.9	49.6	45.2	42.0	44.1	-	49.0	52.8	-	36.4	56.4	28.7	64.0	66.1	62.3
7/6/2016	3:09:00 AM	51.5	52.4	50.5	47.2	49.4	45.6	42.7	46.6	-	49.2	54.0	-	31.8	37.9	29.5	63.8	65.8	61.4
7/6/2016	3:10:00 AM	51.4	52.4	50.6	47.1	49.1	45.2	42.5	45.1	-	48.5	54.4	-	32.0	40.4	29.6	63.4	65.6	61.5
7/6/2016	3:11:00 AM	51.4	52.2	50.7	47.2	49.3	44.3	41.7	43.9	-	49.9	56.8	-	31.6	34.2	29.5	63.8	66.7	61.8
7/6/2016	3:12:00 AM	51.4	52.2	50.6	46.8	49.2	44.5	42.2	45.3	-	50.4	56.8	-	31.9	38.3	29.6	63.5	67.0	61.6
7/6/2016	3:13:00 AM	51.4	52.1	50.6	47.3	49.6	45.1	41.1	42.8	-	48.8	53.2	-	33.5	44.3	30.4	63.6	66.0	61.4
7/6/2016	3:14:00 AM	51.3	52.0	50.5	47.4	50.1	45.6	41.4	43.3	-	49.6	54.0	-	31.4	39.0	29.3	63.8	66.4	61.8
7/6/2016	3:15:00 AM	51.5	52.3	50.6	47.4	49.1	45.7	42.1	44.4	-	48.5	52.3	-	31.2	36.5	29.1	63.1	64.8	61.3
7/6/2016	3:16:00 AM	51.5	52.3	50.5	48.0	50.3	46.4	42.0	44.1	-	48.8	53.1	-	31.2	35.3	29.3	63.5	65.8	61.6
7/6/2016	3:17:00 AM	51.6	52.7	50.8	47.4	49.2	45.5	41.9	43.9	-	47.1	50.4	-	31.3	35.5	29.5	63.1	65.0	61.4
7/6/2016	3:18:00 AM	51.6	52.4	50.8	47.6	49.3	46.2	42.1	43.5	-	48.9	51.8	-	32.1	36.3	29.5	63.2	65.4	61.2
7/6/2016	3:19:00 AM	51.8	56.7	50.7	47.9	50.1	45.8	42.6	44.4	-	50.3	55.0	-	31.7	39.8	28.9	63.1	65.4	61.7
7/6/2016	3:20:00 AM	51.6	53.2	50.8	47.2	49.2	45.0	42.1	43.7	-	50.5	58.3	-	31.1	37.4	28.9	63.3	65.8	61.0
7/6/2016	3:21:00 AM	51.7	52.6	50.9	46.8	49.2	44.9	41.7	43.7	-	50.3	53.6	-	31.0	36.0	28.9	63.1	65.5	60.5

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	3:22:00 AM	51.7	52.5	50.9	46.1	49.1	43.9	41.5	43.8	-	48.7	53.4	-	31.2	39.4	29.5	64.1	66.9	61.7
7/6/2016	3:23:00 AM	51.6	52.3	50.9	48.0	50.2	46.4	42.2	44.0	-	49.7	54.4	-	31.8	37.0	29.1	62.4	64.7	60.2
7/6/2016	3:24:00 AM	53.0	58.9	51.2	47.4	49.1	46.0	42.1	44.6	-	49.5	55.4	-	30.6	38.4	28.7	63.1	65.5	61.1
7/6/2016	3:25:00 AM	50.8	58.4	39.9	47.0	49.6	44.3	42.2	43.8	-	50.4	55.8	-	32.3	36.6	29.1	63.1	65.5	61.5
7/6/2016	3:26:00 AM	41.4	47.8	36.4	46.3	48.0	44.3	42.1	43.7	-	49.7	54.6	-	33.1	49.2	29.6	62.6	64.5	60.6
7/6/2016	3:27:00 AM	41.4	44.3	36.3	45.8	48.3	43.8	42.4	43.7	-	49.4	52.6	-	31.1	42.1	28.9	63.0	65.1	61.1
7/6/2016	3:28:00 AM	46.2	57.1	40.1	46.9	48.7	44.1	42.4	44.3	-	49.8	53.8	-	31.6	37.2	29.6	62.8	65.1	61.4
7/6/2016	3:29:00 AM	52.5	54.0	51.4	46.9	48.4	45.4	42.0	43.3	-	50.0	52.8	-	30.7	38.1	28.2	63.5	65.7	61.5
7/6/2016	3:30:00 AM	52.9	54.3	51.7	47.2	49.2	45.4	42.9	49.0	-	50.6	55.0	-	30.5	46.0	28.6	63.0	64.6	61.3
7/6/2016	3:31:00 AM	52.3	53.4	51.1	46.6	49.5	44.6	41.8	47.7	-	49.0	53.2	-	31.5	37.4	29.3	63.0	64.5	61.5
7/6/2016	3:32:00 AM	51.8	52.9	50.8	45.7	48.2	43.9	41.5	42.9	-	50.0	53.5	-	31.8	39.4	29.1	63.6	67.0	61.6
7/6/2016	3:33:00 AM	51.6	52.8	50.9	47.2	50.4	44.3	42.5	44.0	-	51.2	56.1	-	33.5	56.3	28.9	63.0	66.2	60.4
7/6/2016	3:34:00 AM	51.7	52.8	50.8	48.3	50.9	46.1	42.0	44.3	-	48.4	54.6	-	31.2	33.4	29.1	62.6	65.1	60.4
7/6/2016	3:35:00 AM	51.6	52.5	50.8	47.2	51.3	45.0	41.5	43.4	-	50.9	57.6	-	32.1	39.2	29.8	63.0	67.0	60.0
7/6/2016	3:36:00 AM	51.9	53.0	51.0	45.8	48.2	44.1	42.1	44.0	-	49.8	52.3	-	31.0	37.4	28.7	62.6	65.3	60.8
7/6/2016	3:37:00 AM	51.6	52.9	50.9	46.1	48.4	44.1	42.9	45.8	-	48.0	51.0	-	31.1	37.7	28.7	62.0	64.0	59.6
7/6/2016	3:38:00 AM	51.8	52.6	51.1	46.5	49.3	44.6	44.3	46.3	-	49.4	54.1	-	32.4	51.0	29.5	62.3	64.3	60.7
7/6/2016	3:39:00 AM	51.9	53.0	51.1	47.0	48.8	45.1	43.9	46.7	-	50.4	56.3	-	32.0	37.3	29.3	62.6	65.2	60.8
7/6/2016	3:40:00 AM	51.6	52.7	50.9	47.1	48.9	45.4	42.9	44.8	-	50.0	53.9	-	32.3	43.8	29.5	61.9	64.6	59.8
7/6/2016	3:41:00 AM	51.8	52.5	51.0	46.3	48.0	44.8	42.6	44.1	-	50.2	58.6	-	31.7	34.2	29.8	62.8	64.9	59.3
7/6/2016	3:42:00 AM	51.6	52.5	50.8	47.0	49.3	45.1	42.7	45.9	-	50.0	55.7	-	31.7	35.6	29.8	62.6	65.0	60.3
7/6/2016	3:43:00 AM	51.7	52.6	50.9	47.5	50.0	45.8	47.2	58.5	-	48.9	52.1	-	32.4	36.5	29.8	62.9	65.6	60.2
7/6/2016	3:44:00 AM	51.7	52.7	51.0	48.3	49.9	46.7	42.2	43.6	-	49.2	53.5	-	33.2	38.9	30.8	62.0	64.4	59.6
7/6/2016	3:45:00 AM	50.4	55.1	38.0	47.6	49.5	45.6	43.3	45.0	-	48.2	52.1	-	34.2	38.4	30.8	63.3	66.2	61.0
7/6/2016	3:46:00 AM	35.1	40.6	30.4	47.6	49.3	45.8	43.5	46.0	-	48.7	52.5	-	47.9	65.1	30.6	62.8	64.7	60.9
7/6/2016	3:47:00 AM	36.3	42.1	31.9	48.4	50.1	46.8	42.5	43.7	-	50.8	56.5	-	39.9	58.3	31.1	62.7	65.0	60.4
7/6/2016	3:48:00 AM	36.2	42.0	34.2	48.2	50.7	45.6	41.7	42.9	-	50.3	54.4	-	38.9	55.6	30.6	62.7	65.4	61.2
7/6/2016	3:49:00 AM	51.4	57.4	34.6	46.3	47.9	45.0	41.9	43.4	-	48.8	51.4	-	33.8	39.8	31.5	62.7	65.6	59.6
7/6/2016	3:50:00 AM	53.2	54.6	52.0	46.4	48.0	44.7	41.1	43.4	-	49.7	53.8	-	33.9	37.2	31.3	63.0	66.6	60.5
7/6/2016	3:51:00 AM	52.2	54.2	51.0	46.7	48.6	44.7	42.2	44.4	-	48.6	52.7	-	34.2	37.5	31.6	62.0	64.5	59.1
7/6/2016	3:52:00 AM	51.9	53.2	50.9	46.5	48.3	44.6	44.2	45.8	-	48.2	52.6	-	34.5	43.9	31.1	62.3	65.2	59.5
7/6/2016	3:53:00 AM	52.0	53.4	51.0	46.2	48.3	44.4	43.7	45.6	-	50.9	54.0	-	33.3	39.8	31.1	62.3	64.8	60.0
7/6/2016	3:54:00 AM	51.9	53.0	50.9	46.2	48.1	44.2	41.7	43.2	-	52.4	60.4	-	34.3	39.8	31.5	61.6	64.3	59.3
7/6/2016	3:55:00 AM	51.8	52.8	51.0	46.4	48.5	44.7	42.0	43.9	-	48.7	53.6	-	33.4	40.6	30.8	61.7	64.4	59.8
7/6/2016	3:56:00 AM	51.9	52.8	50.9	46.4	48.1	44.8	41.9	43.8	-	49.4	53.2	-	34.3	43.7	31.5	62.5	65.1	60.5
7/6/2016	3:57:00 AM	51.8	52.7	50.9	46.0	47.8	44.6	41.8	44.0	-	48.1	52.1	-	34.2	37.1	31.3	62.4	65.6	60.5
7/6/2016	3:58:00 AM	51.9	52.9	51.1	46.5	48.6	44.9	43.9	45.6	-	50.2	53.8	-	33.8	43.9	31.3	63.0	67.1	60.2

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	3:59:00 AM	51.9	52.8	51.0	46.5	48.8	44.9	43.9	45.6	-	52.3	60.1	-	33.7	38.5	31.3	62.4	65.9	60.2
7/6/2016	4:00:00 AM	51.7	52.6	50.9	46.7	48.2	45.0	43.8	46.3	-	50.2	57.0	-	33.5	37.7	30.9	63.2	65.9	61.5
7/6/2016	4:01:00 AM	51.8	52.9	51.0	46.8	48.6	45.2	43.0	44.5	-	49.6	52.1	-	32.9	43.1	30.6	62.0	65.9	59.8
7/6/2016	4:02:00 AM	47.6	55.4	33.8	46.3	48.5	44.3	42.0	43.7	-	49.4	53.0	-	33.0	37.5	30.8	62.8	64.9	60.8
7/6/2016	4:03:00 AM	35.0	38.9	33.3	45.8	49.6	44.1	41.8	43.2	-	51.1	54.8	-	32.6	38.1	30.6	62.7	65.5	60.4
7/6/2016	4:04:00 AM	34.1	39.3	31.2	46.7	48.7	45.1	42.0	43.4	-	51.0	54.6	-	32.7	37.5	30.8	61.9	64.0	59.8
7/6/2016	4:05:00 AM	45.1	57.1	31.5	47.2	48.9	45.5	43.7	46.6	-	51.2	56.2	-	32.8	39.1	30.4	62.5	64.6	60.4
7/6/2016	4:06:00 AM	52.6	54.7	51.4	46.3	48.5	44.9	42.8	44.7	-	52.0	57.7	-	33.0	36.8	30.4	62.7	64.9	60.6
7/6/2016	4:07:00 AM	52.8	54.1	51.2	46.9	48.9	45.1	42.6	45.5	-	51.9	57.9	-	34.4	37.1	31.3	62.0	64.4	60.2
7/6/2016	4:08:00 AM	51.8	53.1	50.9	47.0	51.9	45.2	42.4	43.9	-	51.1	55.2	-	35.4	41.5	32.9	61.6	63.7	60.2
7/6/2016	4:09:00 AM	51.8	52.7	50.8	46.3	47.9	44.4	42.8	45.0	-	49.9	54.6	-	34.2	37.7	31.6	62.5	64.9	60.5
7/6/2016	4:10:00 AM	51.7	52.5	50.9	47.1	49.0	45.1	43.8	47.6	-	51.0	55.1	-	33.7	39.4	31.6	61.9	64.4	60.1
7/6/2016	4:11:00 AM	51.9	52.9	51.0	47.7	49.6	45.4	45.0	47.8	-	51.5	54.3	-	33.7	37.7	31.3	63.2	66.7	60.7
7/6/2016	4:12:00 AM	51.9	52.8	51.1	49.8	54.8	46.7	42.7	46.1	-	51.2	54.7	-	32.6	38.4	30.6	62.6	65.2	60.6
7/6/2016	4:13:00 AM	51.9	52.8	51.2	52.5	65.9	46.0	41.1	42.7	-	53.7	60.5	-	34.1	44.5	32.1	62.7	66.0	60.8
7/6/2016	4:14:00 AM	52.1	53.0	51.2	47.7	49.2	46.1	42.9	45.4	-	53.7	57.1	-	32.7	41.3	30.6	62.3	65.3	60.5
7/6/2016	4:15:00 AM	51.8	52.6	51.1	47.1	48.7	45.5	43.2	46.4	-	53.1	57.6	-	32.7	35.1	30.6	62.5	65.7	60.4
7/6/2016	4:16:00 AM	51.8	52.7	51.0	47.3	49.0	44.9	43.0	45.4	-	53.7	59.0	-	33.0	39.4	30.1	62.3	65.5	59.6
7/6/2016	4:17:00 AM	51.9	52.9	51.0	46.6	49.1	44.3	43.5	47.4	-	53.1	56.5	-	34.3	41.1	32.3	61.8	64.3	60.2
7/6/2016	4:18:00 AM	51.2	54.8	39.5	46.9	48.9	44.4	42.3	44.7	-	51.4	55.0	-	34.0	38.7	31.5	61.8	64.0	60.3
7/6/2016	4:19:00 AM	39.8	46.2	36.5	47.1	49.6	45.3	42.1	45.3	-	51.8	55.7	-	34.1	40.9	32.2	62.7	65.2	60.6
7/6/2016	4:20:00 AM	37.2	40.5	33.8	46.5	48.5	44.7	42.2	44.0	-	53.2	56.2	-	34.0	37.7	31.9	62.3	65.7	60.2
7/6/2016	4:21:00 AM	33.3	38.0	31.2	46.8	49.2	44.9	42.7	44.7	-	52.4	56.2	-	34.6	47.0	32.1	62.3	65.6	60.3
7/6/2016	4:22:00 AM	51.1	56.5	32.7	47.0	48.9	45.2	43.0	44.5	-	52.4	56.4	-	34.4	41.2	32.5	62.1	64.0	60.5
7/6/2016	4:23:00 AM	52.8	54.3	51.3	46.6	48.5	44.8	43.3	45.4	-	52.5	55.7	-	33.0	44.8	30.6	62.3	64.4	60.1
7/6/2016	4:24:00 AM	52.6	53.7	51.4	46.6	48.5	44.7	43.6	47.7	-	52.4	56.1	-	33.3	42.6	31.2	63.1	66.5	60.6
7/6/2016	4:25:00 AM	52.2	53.6	51.0	47.4	50.2	45.0	41.8	43.5	-	51.7	55.9	-	36.3	45.4	32.6	62.5	65.0	60.1
7/6/2016	4:26:00 AM	52.5	53.6	51.5	53.0	58.6	47.6	41.8	44.0	-	53.5	59.2	-	34.9	45.3	32.5	62.0	64.9	60.3
7/6/2016	4:27:00 AM	51.8	52.6	51.1	48.8	53.4	44.9	42.3	44.4	-	54.4	61.4	-	33.8	38.5	31.8	61.5	64.5	59.8
7/6/2016	4:28:00 AM	52.0	55.1	51.1	46.8	50.4	44.8	42.2	44.7	-	53.3	57.3	-	34.5	47.3	31.5	61.8	63.8	59.4
7/6/2016	4:29:00 AM	51.9	52.8	51.1	48.0	51.4	45.4	42.3	45.0	-	51.7	54.9	-	32.9	39.1	31.3	61.8	64.6	59.7
7/6/2016	4:30:00 AM	52.4	53.9	51.3	49.5	53.2	47.2	43.1	45.5	-	52.1	55.3	-	33.7	37.1	31.5	62.1	64.3	59.7
7/6/2016	4:31:00 AM	52.4	53.8	51.3	51.0	54.5	47.0	43.2	51.8	-	53.1	57.5	-	34.1	38.2	32.2	62.0	64.4	60.1
7/6/2016	4:32:00 AM	52.1	53.0	51.2	48.5	50.3	46.4	42.7	45.6	-	51.8	55.8	-	33.5	37.4	31.3	61.6	64.4	59.1
7/6/2016	4:33:00 AM	51.7	52.5	50.9	48.9	50.7	47.2	42.7	44.9	-	52.7	56.6	-	33.3	38.6	31.3	61.9	64.0	60.2
7/6/2016	4:34:00 AM	51.7	55.8	39.5	50.3	52.1	48.1	43.0	47.6	-	53.0	58.4	-	32.9	36.1	31.1	61.4	64.2	59.2
7/6/2016	4:35:00 AM	39.9	46.7	35.5	50.5	52.3	48.7	42.3	44.9	-	53.5	57.1	-	32.7	36.9	31.1	62.6	66.1	59.9

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	4:36:00 AM	47.0	58.6	34.2	51.0	52.8	48.6	43.6	47.8	-	55.0	60.1	-	32.5	36.3	30.9	62.0	65.2	59.9
7/6/2016	4:37:00 AM	34.9	39.1	32.5	54.6	56.9	51.3	46.0	53.7	-	54.1	58.5	-	34.2	40.1	31.8	62.0	65.4	60.1
7/6/2016	4:38:00 AM	49.4	57.0	33.3	53.4	56.7	48.3	44.2	49.4	-	54.2	57.2	-	35.2	41.0	32.5	61.8	64.1	59.4
7/6/2016	4:39:00 AM	53.1	54.5	51.6	48.1	56.2	45.5	42.7	46.2	-	55.7	61.7	-	34.5	37.7	32.7	61.8	64.0	59.9
7/6/2016	4:40:00 AM	52.8	54.3	51.4	46.9	50.1	45.0	43.1	45.2	-	54.6	60.7	-	35.1	38.2	33.0	62.2	63.9	60.5
7/6/2016	4:41:00 AM	52.0	53.5	51.0	46.5	48.5	45.0	43.5	45.8	-	54.6	57.4	-	36.1	41.2	33.7	62.4	66.0	60.3
7/6/2016	4:42:00 AM	52.0	53.8	50.9	47.2	49.2	45.2	43.5	46.0	-	55.8	60.9	-	35.1	49.0	32.9	62.1	64.8	60.3
7/6/2016	4:43:00 AM	51.9	52.8	51.1	46.7	49.6	44.9	43.6	46.0	-	56.0	59.5	-	35.0	39.7	33.1	62.2	64.3	59.6
7/6/2016	4:44:00 AM	52.0	52.8	51.0	46.4	48.7	43.6	43.1	45.7	-	54.2	57.0	-	34.4	36.4	32.7	61.7	64.9	59.6
7/6/2016	4:45:00 AM	51.9	52.8	50.9	45.5	48.6	43.3	42.8	45.9	-	55.0	60.2	-	34.6	49.2	32.1	61.7	63.7	59.8
7/6/2016	4:46:00 AM	51.9	52.8	50.9	46.2	48.1	44.7	42.9	45.3	-	54.6	59.2	-	34.3	38.5	32.7	62.1	65.4	59.4
7/6/2016	4:47:00 AM	51.7	52.6	50.8	46.8	49.2	45.2	44.0	47.0	-	54.3	58.5	-	34.2	40.9	32.5	62.4	65.8	60.0
7/6/2016	4:48:00 AM	52.0	52.9	51.2	46.8	49.4	45.3	54.8	61.4	-	54.7	56.9	-	34.4	37.9	32.3	62.3	65.0	60.2
7/6/2016	4:49:00 AM	51.8	52.7	51.0	46.9	57.2	44.6	47.7	53.4	-	54.4	57.2	-	35.9	39.7	33.1	61.6	64.5	59.1
7/6/2016	4:50:00 AM	51.2	57.0	39.9	46.2	48.3	44.6	42.9	45.3	-	54.8	57.6	-	35.4	39.9	33.1	61.5	64.2	59.5
7/6/2016	4:51:00 AM	38.2	41.7	35.3	46.1	48.5	44.7	44.9	47.9	-	54.4	56.8	-	35.4	39.9	33.0	61.4	63.6	59.4
7/6/2016	4:52:00 AM	36.9	39.7	35.0	45.9	48.1	43.8	44.4	46.5	-	54.9	58.3	-	35.8	38.1	33.3	62.4	65.7	60.0
7/6/2016	4:53:00 AM	36.6	40.2	32.5	47.6	50.0	45.4	44.5	47.1	-	53.1	57.2	-	36.8	40.2	34.0	61.7	64.3	59.2
7/6/2016	4:54:00 AM	49.9	57.0	32.3	47.6	51.2	45.4	44.4	48.4	-	53.0	55.5	-	37.5	42.0	35.1	61.9	64.0	59.9
7/6/2016	4:55:00 AM	53.1	54.5	51.5	47.5	49.5	45.6	44.2	48.1	-	54.1	56.4	-	37.3	40.9	33.1	62.3	65.1	60.1
7/6/2016	4:56:00 AM	52.1	53.8	51.0	47.9	49.8	46.2	43.4	45.6	-	53.6	55.9	-	35.0	47.7	33.0	61.3	63.1	58.7
7/6/2016	4:57:00 AM	51.8	52.9	50.9	47.5	49.7	45.7	43.0	45.3	-	54.5	60.2	-	36.1	40.8	34.0	61.7	64.2	59.7
7/6/2016	4:58:00 AM	51.6	53.0	50.7	47.6	53.3	45.4	43.9	46.9	-	54.6	59.0	-	35.5	39.5	33.0	61.9	64.1	59.0
7/6/2016	4:59:00 AM	52.3	56.9	50.9	46.7	48.7	45.2	44.8	47.9	-	54.3	57.3	-	34.8	39.4	33.3	62.0	64.9	59.6
7/6/2016	5:00:00 AM	51.6	53.8	50.7	46.2	48.1	44.5	46.8	52.7	-	56.8	62.6	-	36.1	40.4	33.7	61.4	64.6	59.5
7/6/2016	5:01:00 AM	51.6	54.1	50.8	45.7	47.1	44.1	46.1	48.7	-	56.0	64.3	-	37.0	40.1	34.3	61.9	64.0	59.8
7/6/2016	5:02:00 AM	51.6	52.4	50.7	46.6	48.6	44.6	45.5	48.7	-	56.3	59.3	-	35.9	38.3	33.5	61.4	63.9	59.2
7/6/2016	5:03:00 AM	51.7	52.7	50.8	53.8	64.8	46.0	45.6	49.2	-	55.3	57.5	-	36.5	44.5	33.1	62.2	64.8	60.6
7/6/2016	5:04:00 AM	51.5	52.4	50.7	52.5	62.6	46.1	46.5	49.8	-	55.2	60.7	-	37.3	45.3	32.5	62.0	64.4	60.1
7/6/2016	5:05:00 AM	51.5	52.3	50.8	47.4	49.2	45.4	47.0	55.8	-	53.7	56.8	-	35.9	40.5	34.0	62.0	65.6	59.3
7/6/2016	5:06:00 AM	51.6	52.5	50.7	46.6	48.9	45.0	46.9	50.3	-	55.8	58.9	-	37.2	44.4	34.5	61.9	64.0	59.4
7/6/2016	5:07:00 AM	51.5	55.4	38.6	47.2	49.0	45.6	47.1	50.0	-	56.2	58.8	-	39.1	49.7	36.0	61.7	63.9	59.5
7/6/2016	5:08:00 AM	37.7	45.8	31.9	47.9	49.4	46.4	47.0	49.2	-	56.3	59.0	-	48.0	59.9	36.3	61.4	69.8	59.1
7/6/2016	5:09:00 AM	38.2	50.4	31.9	46.8	48.6	45.1	53.2	58.9	-	55.6	57.5	-	38.4	43.2	36.4	61.5	63.7	59.7
7/6/2016	5:10:00 AM	39.6	47.5	34.3	46.8	51.1	45.0	51.5	54.1	-	54.7	56.6	-	39.3	42.7	36.5	61.5	64.0	59.9
7/6/2016	5:11:00 AM	50.2	57.1	34.9	47.4	50.1	45.6	52.5	55.7	-	54.6	56.9	-	39.2	42.8	37.0	61.7	63.7	59.6
7/6/2016	5:12:00 AM	53.1	54.3	51.6	52.5	58.7	47.0	56.1	61.9	-	55.6	58.2	-	39.5	43.9	36.8	61.7	63.7	59.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	5:13:00 AM	51.8	53.5	50.8	47.6	49.7	45.5	52.5	59.7	-	54.5	56.4	-	42.2	51.7	36.9	62.0	65.0	60.2
7/6/2016	5:14:00 AM	51.8	53.3	50.9	46.8	49.6	45.4	47.0	49.6	-	54.8	58.2	-	40.4	50.6	36.9	62.4	64.7	60.4
7/6/2016	5:15:00 AM	52.1	57.9	50.8	47.6	49.7	45.7	46.5	51.3	-	56.5	59.5	-	40.1	52.6	37.3	62.0	64.7	60.1
7/6/2016	5:16:00 AM	53.3	58.6	51.3	47.8	49.6	45.5	49.2	53.4	-	56.6	60.5	-	39.7	42.9	37.9	62.4	65.8	60.4
7/6/2016	5:17:00 AM	52.9	59.4	51.4	46.4	48.3	44.5	50.0	55.1	-	57.4	62.6	-	39.7	42.2	38.0	61.8	64.5	59.7
7/6/2016	5:18:00 AM	52.7	57.9	51.1	46.1	48.0	44.5	49.0	54.2	-	61.5	71.2	-	39.8	42.7	37.7	62.0	64.6	60.0
7/6/2016	5:19:00 AM	52.0	52.9	51.2	47.0	48.7	45.4	48.7	51.7	-	57.4	62.4	-	40.4	43.2	37.9	61.7	63.4	59.8
7/6/2016	5:20:00 AM	52.0	54.1	51.2	47.5	49.1	45.9	48.7	51.5	-	58.2	66.3	-	41.0	46.4	38.7	62.0	65.1	59.7
7/6/2016	5:21:00 AM	52.5	57.1	50.9	48.3	54.7	46.4	48.9	51.3	-	56.2	59.8	-	40.3	44.6	38.6	61.5	64.8	59.4
7/6/2016	5:22:00 AM	51.9	52.8	51.1	47.6	50.5	46.0	48.4	51.7	-	56.2	58.9	-	40.7	43.6	38.6	61.8	64.5	59.8
7/6/2016	5:23:00 AM	51.9	54.1	50.9	47.7	49.7	46.0	48.4	52.3	-	57.4	65.0	-	40.7	43.3	38.7	61.3	64.0	59.6
7/6/2016	5:24:00 AM	53.4	63.9	51.3	48.6	52.2	46.0	49.3	52.4	-	57.3	62.8	-	41.3	44.5	38.6	62.0	64.9	59.8
7/6/2016	5:25:00 AM	54.1	68.7	51.3	48.4	50.6	46.7	48.7	51.9	-	58.9	69.1	-	40.7	42.6	39.0	61.5	63.0	60.2
7/6/2016	5:26:00 AM	57.2	78.4	51.0	48.6	57.8	46.4	49.9	51.5	-	56.9	59.1	-	40.6	42.6	38.9	61.3	64.2	58.9
7/6/2016	5:27:00 AM	52.1	55.3	51.2	48.6	55.2	46.9	49.9	56.1	-	57.7	63.5	-	41.1	45.2	38.2	61.3	63.6	59.0
7/6/2016	5:28:00 AM	46.2	55.2	37.1	56.4	66.1	47.7	48.4	51.0	-	57.6	61.6	-	41.4	45.7	38.1	61.9	63.9	60.3
7/6/2016	5:29:00 AM	39.6	46.2	35.3	49.9	57.9	47.2	48.9	51.5	-	57.5	59.6	-	42.6	57.0	37.7	62.3	64.9	60.5
7/6/2016	5:30:00 AM	37.0	41.5	33.5	48.1	49.8	46.3	52.1	60.6	-	57.7	60.1	-	38.2	41.2	36.0	62.2	66.0	60.1
7/6/2016	5:31:00 AM	50.3	57.0	34.5	48.6	55.2	46.3	55.3	61.5	-	56.6	59.5	-	37.6	41.3	35.8	61.9	64.8	60.2
7/6/2016	5:32:00 AM	53.1	54.5	52.0	49.0	52.9	47.0	49.8	53.2	-	57.7	59.7	-	40.1	51.1	37.4	61.9	64.1	60.0
7/6/2016	5:33:00 AM	52.7	56.9	51.2	49.0	53.3	47.2	49.3	52.1	-	57.6	60.2	-	55.9	77.4	40.9	62.0	64.3	60.4
7/6/2016	5:34:00 AM	51.9	53.2	51.0	49.1	50.9	47.3	48.5	51.0	-	57.3	59.0	-	48.5	50.3	47.5	62.1	65.0	60.1
7/6/2016	5:35:00 AM	51.6	52.6	50.9	49.7	51.8	48.1	48.1	58.0	-	60.1	71.5	-	48.5	49.6	47.2	62.3	65.2	60.6
7/6/2016	5:36:00 AM	51.7	55.6	50.9	49.5	51.0	47.7	48.6	51.5	-	57.9	64.5	-	48.9	57.6	46.9	62.6	65.3	60.0
7/6/2016	5:37:00 AM	52.2	56.1	51.2	48.8	50.5	46.7	51.5	55.4	-	57.1	61.0	-	42.7	50.4	40.1	62.4	65.0	60.4
7/6/2016	5:38:00 AM	51.8	53.2	50.7	48.4	50.4	46.3	48.8	51.4	-	58.8	68.2	-	41.9	44.6	40.4	62.0	64.5	60.0
7/6/2016	5:39:00 AM	52.3	55.9	51.1	48.1	54.2	46.2	47.7	52.9	-	58.5	64.8	-	41.7	47.2	40.1	61.2	63.6	59.3
7/6/2016	5:40:00 AM	51.7	56.5	50.9	48.0	52.7	45.9	48.4	55.1	-	57.3	59.8	-	41.5	43.8	40.1	61.3	63.1	59.3
7/6/2016	5:41:00 AM	55.9	76.4	50.9	47.6	50.0	45.7	47.8	53.5	-	59.3	67.2	-	41.1	44.0	39.2	61.5	63.3	59.3
7/6/2016	5:42:00 AM	52.2	66.5	50.9	48.3	52.2	45.9	47.9	54.1	-	57.3	61.9	-	42.1	56.5	38.3	61.6	63.8	59.4
7/6/2016	5:43:00 AM	52.2	62.8	50.9	48.4	50.5	46.1	47.8	51.3	-	57.1	59.2	-	42.4	50.0	40.9	61.8	63.9	60.1
7/6/2016	5:44:00 AM	53.2	63.8	51.4	47.1	48.9	45.3	49.4	55.0	-	58.1	64.7	-	41.3	43.5	38.7	61.9	64.6	59.7
7/6/2016	5:45:00 AM	58.4	79.9	51.3	47.2	49.2	45.5	50.6	59.1	-	58.2	61.7	-	40.9	44.1	38.9	61.8	64.3	59.9
7/6/2016	5:46:00 AM	57.4	73.9	50.9	48.7	57.0	45.5	50.9	56.4	-	57.0	60.3	-	39.9	49.4	38.0	62.9	66.3	60.6
7/6/2016	5:47:00 AM	52.1	56.4	51.0	48.7	51.3	47.0	50.8	61.0	-	56.6	59.6	-	39.7	41.2	38.5	62.6	65.9	60.2
7/6/2016	5:48:00 AM	51.5	52.7	50.8	48.4	50.2	46.7	50.7	57.9	-	58.0	61.3	-	40.2	45.1	37.9	61.8	64.4	60.1
7/6/2016	5:49:00 AM	51.6	54.6	50.8	48.5	50.4	46.9	51.2	65.0	-	57.1	63.2	-	40.0	45.2	38.4	62.1	64.3	59.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	5:50:00 AM	52.1	60.0	50.8	49.0	54.0	47.2	50.9	62.9	-	57.7	62.5	-	42.1	52.4	39.5	62.0	64.1	60.0
7/6/2016	5:51:00 AM	52.0	62.4	50.8	48.4	50.8	46.8	51.7	55.3	-	57.3	60.8	-	41.2	44.2	39.7	61.7	64.3	59.8
7/6/2016	5:52:00 AM	51.8	55.5	50.8	49.2	56.8	46.5	53.8	58.7	-	57.6	62.4	-	41.9	46.1	39.7	62.2	64.7	60.1
7/6/2016	5:53:00 AM	52.0	53.2	50.9	50.3	60.8	47.0	53.6	58.3	-	58.0	62.4	-	43.1	60.6	39.4	62.2	64.4	59.6
7/6/2016	5:54:00 AM	52.5	61.3	50.9	49.4	51.5	47.1	51.5	56.0	-	57.8	61.3	-	42.2	48.8	40.0	61.6	64.2	59.7
7/6/2016	5:55:00 AM	52.0	55.2	50.7	48.2	50.5	46.2	49.6	54.2	-	57.4	60.4	-	52.9	72.9	39.9	61.8	65.0	59.6
7/6/2016	5:56:00 AM	52.1	54.2	51.2	47.9	50.0	45.9	50.9	53.3	-	56.7	59.7	-	51.7	71.1	41.2	62.0	64.0	60.3
7/6/2016	5:57:00 AM	52.9	55.0	51.4	49.0	53.7	46.4	53.1	56.7	-	57.4	60.8	-	44.8	55.4	40.0	62.0	64.1	60.0
7/6/2016	5:58:00 AM	53.0	55.1	51.4	51.3	57.6	47.1	52.6	55.8	-	56.7	59.8	-	40.0	46.5	38.0	61.7	64.5	59.7
7/6/2016	5:59:00 AM	52.2	54.5	50.7	48.8	52.2	46.8	52.9	64.4	-	56.8	65.0	-	42.4	62.5	38.0	61.5	63.9	60.0
7/6/2016	6:00:00 AM	52.1	55.7	51.0	49.4	55.4	46.1	54.2	57.8	-	57.2	64.5	-	58.0	77.1	38.1	61.7	63.7	59.2
7/6/2016	6:01:00 AM	52.3	55.3	51.1	53.7	60.6	47.9	55.9	69.0	-	59.3	70.4	-	60.1	78.6	36.9	61.2	63.0	59.2
7/6/2016	6:02:00 AM	52.5	54.6	51.2	48.8	51.6	47.3	61.0	76.0	-	57.5	68.8	-	58.3	77.7	37.0	61.7	64.4	59.0
7/6/2016	6:03:00 AM	52.0	53.3	51.1	49.4	53.1	47.1	53.7	57.9	-	56.4	61.5	-	39.6	43.7	37.9	61.7	63.7	59.7
7/6/2016	6:04:00 AM	51.9	53.5	51.0	56.5	67.3	48.0	54.8	60.2	-	56.7	61.0	-	40.2	48.4	38.1	61.3	63.4	59.2
7/6/2016	6:05:00 AM	51.9	53.9	51.0	47.9	51.7	46.0	54.6	61.3	-	57.8	70.1	-	40.0	46.0	38.4	62.0	63.9	59.5
7/6/2016	6:06:00 AM	52.0	55.7	51.0	50.9	58.3	46.2	53.9	61.5	-	55.4	61.8	-	40.9	53.0	38.9	62.1	64.3	60.5
7/6/2016	6:07:00 AM	51.9	52.8	51.1	54.9	63.0	47.2	52.6	62.3	-	56.7	60.9	-	43.0	59.0	39.8	62.4	69.2	59.7
7/6/2016	6:08:00 AM	51.9	52.9	51.1	48.5	51.4	46.7	52.2	55.6	-	56.1	59.0	-	43.0	48.0	40.7	62.2	65.5	60.2
7/6/2016	6:09:00 AM	52.1	54.6	51.1	49.9	55.8	46.4	50.4	53.7	-	57.1	60.0	-	45.4	56.8	40.1	61.8	64.0	59.7
7/6/2016	6:10:00 AM	51.7	53.4	50.9	50.5	53.6	48.7	49.0	51.7	-	57.8	64.2	-	43.5	57.2	39.0	61.9	64.1	59.8
7/6/2016	6:11:00 AM	51.4	52.2	50.5	50.4	52.2	48.5	50.6	53.9	-	56.6	59.3	-	42.3	53.8	39.7	62.4	65.0	59.9
7/6/2016	6:12:00 AM	51.5	52.3	50.7	51.4	57.8	49.5	48.7	53.8	-	56.8	61.9	-	41.9	54.0	39.7	62.2	64.3	60.1
7/6/2016	6:13:00 AM	51.6	52.8	50.8	57.2	63.5	49.9	50.4	69.2	-	56.7	61.4	-	41.1	45.7	39.1	61.8	64.0	59.5
7/6/2016	6:14:00 AM	51.5	52.4	50.7	49.6	51.6	47.7	47.7	60.9	-	56.5	61.2	-	41.2	50.3	38.6	62.0	64.3	60.3
7/6/2016	6:15:00 AM	52.6	59.1	50.7	49.0	52.6	46.6	48.6	66.3	-	56.6	62.0	-	40.6	45.8	38.7	62.3	65.7	60.1
7/6/2016	6:16:00 AM	51.6	54.8	50.8	55.9	60.3	50.2	49.8	61.8	-	59.8	70.5	-	40.0	44.5	38.3	62.4	64.4	60.2
7/6/2016	6:17:00 AM	66.5	83.6	50.5	50.2	55.0	47.8	48.1	59.1	-	58.1	64.0	-	40.5	44.3	38.6	62.8	64.9	60.8
7/6/2016	6:18:00 AM	52.3	57.3	50.8	49.3	51.0	47.2	49.0	59.8	-	57.9	63.4	-	40.5	45.8	37.5	61.8	63.5	60.1
7/6/2016	6:19:00 AM	51.6	53.0	50.8	52.6	62.5	48.6	47.0	50.3	-	56.7	67.8	-	39.8	46.1	37.8	62.4	65.5	59.8
7/6/2016	6:20:00 AM	51.6	52.5	50.7	50.3	52.9	48.5	48.7	53.1	-	57.6	67.6	-	39.3	48.0	37.4	62.5	64.4	60.5
7/6/2016	6:21:00 AM	51.8	55.6	51.0	50.3	53.4	48.7	47.7	60.0	-	56.2	59.2	-	39.3	42.3	37.8	62.5	64.4	60.7
7/6/2016	6:22:00 AM	51.9	56.2	50.9	58.0	63.1	51.2	47.3	50.2	-	58.6	65.6	-	39.8	44.5	37.9	62.5	65.2	60.5
7/6/2016	6:23:00 AM	51.7	56.8	50.8	52.8	60.4	49.2	48.6	54.3	-	59.3	66.3	-	39.5	44.6	37.7	62.3	64.9	60.6
7/6/2016	6:24:00 AM	52.4	57.1	50.8	52.1	57.5	50.1	48.8	53.2	-	55.4	59.7	-	39.7	46.1	37.7	62.3	64.6	60.0
7/6/2016	6:25:00 AM	52.0	54.9	51.0	55.6	60.9	50.2	48.4	55.4	-	57.7	63.5	-	41.4	52.4	39.0	62.5	65.0	60.2
7/6/2016	6:26:00 AM	52.3	57.3	50.8	54.8	61.7	50.3	47.2	50.3	-	57.5	63.5	-	41.9	45.6	39.4	62.8	65.7	60.7

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	6:27:00 AM	51.9	56.2	50.7	51.6	54.1	49.4	48.0	53.1	-	56.6	59.9	-	40.3	42.7	38.5	62.1	64.8	60.2
7/6/2016	6:28:00 AM	51.7	55.2	50.6	54.5	61.7	51.4	48.7	59.0	-	57.4	60.1	-	42.1	49.6	39.5	62.4	64.6	60.3
7/6/2016	6:29:00 AM	52.7	57.5	50.8	55.5	62.4	51.9	46.4	51.1	-	55.4	58.7	-	40.9	54.0	38.0	62.7	65.7	60.9
7/6/2016	6:30:00 AM	51.8	55.1	51.0	57.5	65.2	52.4	48.0	58.4	-	56.5	60.6	-	41.5	52.8	38.9	61.9	64.0	59.7
7/6/2016	6:31:00 AM	52.5	54.2	51.2	56.8	65.3	52.7	47.4	50.0	-	57.1	69.8	-	40.7	43.5	38.7	62.4	64.4	60.4
7/6/2016	6:32:00 AM	53.4	60.1	51.5	60.0	67.1	53.9	48.4	58.2	-	56.7	63.8	-	41.5	54.4	39.5	62.5	64.8	60.7
7/6/2016	6:33:00 AM	53.8	57.7	51.5	55.0	58.9	51.9	54.7	71.4	-	55.4	59.0	-	41.0	52.7	38.6	61.8	64.7	59.9
7/6/2016	6:34:00 AM	56.4	72.3	51.5	55.4	58.9	52.6	50.2	65.6	-	56.5	59.5	-	41.6	49.3	38.9	62.2	64.1	60.6
7/6/2016	6:35:00 AM	53.5	71.6	51.1	62.1	69.9	55.0	48.6	63.6	-	56.4	61.5	-	43.7	60.4	37.7	62.2	64.0	60.4
7/6/2016	6:36:00 AM	51.6	56.4	50.9	58.9	65.6	53.5	47.8	49.9	-	56.2	59.5	-	40.5	46.1	38.0	62.2	64.7	60.4
7/6/2016	6:37:00 AM	53.1	57.4	51.2	60.9	67.8	55.7	47.9	51.1	-	56.2	62.0	-	41.2	46.1	38.4	62.3	64.4	60.5
7/6/2016	6:38:00 AM	53.2	57.3	51.3	60.2	67.4	54.1	49.3	53.7	-	55.8	59.3	-	41.4	44.2	39.7	62.3	67.0	60.4
7/6/2016	6:39:00 AM	53.3	60.8	51.5	59.6	68.3	53.7	50.5	58.3	-	57.1	60.5	-	40.9	45.8	38.9	61.8	64.0	59.7
7/6/2016	6:40:00 AM	53.4	55.5	51.6	58.0	64.1	52.8	50.5	56.4	-	61.2	75.6	-	40.8	43.6	38.9	62.5	65.2	60.7
7/6/2016	6:41:00 AM	52.8	56.6	51.4	61.5	69.8	53.8	50.3	55.3	-	56.1	59.6	-	42.0	52.6	38.9	62.5	68.3	60.9
7/6/2016	6:42:00 AM	53.5	56.6	51.6	64.6	76.3	56.4	47.6	50.6	-	56.8	59.9	-	41.9	49.1	39.5	62.5	64.7	61.2
7/6/2016	6:43:00 AM	53.3	57.2	51.7	59.5	64.9	55.1	50.7	56.0	-	57.5	61.4	-	41.8	48.8	39.5	62.3	64.8	60.9
7/6/2016	6:44:00 AM	53.4	57.4	51.7	62.2	71.3	54.7	48.2	52.7	-	57.2	60.8	-	42.2	46.2	40.1	62.8	65.8	60.7
7/6/2016	6:45:00 AM	53.9	59.1	51.4	56.9	66.6	53.1	47.1	51.7	-	57.5	61.4	-	42.5	47.0	39.8	62.7	65.3	60.8
7/6/2016	6:46:00 AM	52.8	57.8	51.1	64.4	72.9	58.0	51.0	58.8	-	56.3	58.6	-	42.0	50.5	40.1	62.4	64.6	60.1
7/6/2016	6:47:00 AM	52.5	57.3	51.2	62.6	70.0	54.4	51.3	59.0	-	56.9	59.3	-	42.4	47.8	40.2	62.3	64.6	60.4
7/6/2016	6:48:00 AM	52.9	58.8	51.2	58.9	65.3	53.6	49.9	54.5	-	56.3	58.4	-	43.6	55.8	40.1	62.6	64.1	61.1
7/6/2016	6:49:00 AM	53.6	58.9	51.5	59.1	64.6	55.3	49.1	54.7	-	60.4	69.5	-	41.7	52.8	39.7	62.6	64.3	60.7
7/6/2016	6:50:00 AM	52.8	56.6	51.3	62.1	67.7	56.7	49.1	55.3	-	56.9	63.1	-	41.8	45.6	39.6	62.7	65.6	61.1
7/6/2016	6:51:00 AM	52.9	57.1	51.2	60.8	69.1	56.1	50.6	56.4	-	56.9	62.1	-	42.2	45.3	39.5	62.2	63.7	60.7
7/6/2016	6:52:00 AM	53.8	60.8	51.3	63.0	69.8	56.4	47.5	55.0	-	56.3	60.4	-	42.2	48.0	39.4	62.5	64.3	60.9
7/6/2016	6:53:00 AM	52.0	56.5	51.0	61.0	68.3	53.1	47.4	55.3	-	56.4	59.0	-	40.6	47.3	38.2	62.7	65.0	60.6
7/6/2016	6:54:00 AM	52.4	57.0	51.2	55.1	62.1	51.8	47.7	52.9	-	56.5	59.4	-	40.5	47.1	38.4	62.3	64.0	60.6
7/6/2016	6:55:00 AM	52.3	58.7	51.0	59.8	69.9	52.1	50.1	56.0	-	56.1	61.2	-	40.2	45.2	38.3	62.9	64.8	60.0
7/6/2016	6:56:00 AM	52.7	57.2	51.4	63.0	74.4	54.0	48.2	52.6	-	56.3	59.4	-	46.6	54.1	39.2	63.0	65.8	61.2
7/6/2016	6:57:00 AM	52.6	57.5	43.2	64.2	74.0	52.1	49.1	55.0	-	55.9	59.8	-	40.7	46.9	37.9	63.3	65.4	61.7
7/6/2016	6:58:00 AM	45.9	55.7	38.5	62.7	70.3	54.1	52.1	57.8	-	55.5	60.0	-	44.6	50.9	39.1	63.1	66.1	61.2
7/6/2016	6:59:00 AM	47.3	56.5	40.9	58.1	67.5	52.7	58.5	63.0	-	54.6	59.6	-	42.8	50.9	38.4	63.7	66.6	61.3
7/6/2016	7:00:00 AM	47.6	54.0	40.5	64.3	75.7	54.0	56.7	61.0	-	54.9	57.4	-	43.0	51.8	38.4	62.7	64.3	61.2
7/6/2016	7:01:00 AM	46.3	57.9	40.0	61.0	70.4	52.6	66.3	70.6	-	57.7	63.7	-	49.8	69.8	39.5	63.0	64.8	61.1
7/6/2016	7:02:00 AM	45.6	55.1	39.3	55.3	64.4	52.1	56.5	62.7	-	56.9	59.9	-	41.8	52.0	38.0	63.1	65.3	61.1
7/6/2016	7:03:00 AM	46.9	55.7	39.0	59.8	68.2	51.9	51.5	57.6	-	55.2	58.9	-	42.5	57.7	38.6	62.5	66.1	60.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	7:04:00 AM	42.5	52.9	37.2	54.5	58.7	51.7	58.6	64.2	-	54.5	58.3	-	44.7	50.1	39.5	62.5	64.8	60.5
7/6/2016	7:05:00 AM	46.9	56.8	39.2	60.5	72.3	51.5	62.8	67.3	-	58.5	71.6	-	43.3	48.7	39.9	62.9	65.3	61.1
7/6/2016	7:06:00 AM	42.0	52.3	37.2	63.7	72.9	53.1	59.8	65.7	-	54.1	58.1	-	46.0	58.0	40.1	63.0	66.8	60.4
7/6/2016	7:07:00 AM	48.9	57.8	39.7	53.6	58.9	50.8	58.6	64.0	-	54.8	59.7	-	43.8	56.5	39.9	63.0	65.6	60.7
7/6/2016	7:08:00 AM	45.3	52.2	40.0	60.5	70.0	49.6	50.5	54.0	-	55.1	59.1	-	42.8	51.5	38.2	62.7	64.9	60.9
7/6/2016	7:09:00 AM	47.1	52.4	40.6	59.1	69.6	50.3	51.3	61.3	-	56.1	60.2	-	44.7	50.8	40.7	62.2	64.6	60.3
7/6/2016	7:10:00 AM	47.6	55.5	39.5	53.3	60.4	49.3	50.0	54.6	-	56.0	74.9	-	42.6	48.8	40.1	63.1	71.4	60.3
7/6/2016	7:11:00 AM	51.0	61.6	40.6	59.0	65.6	53.2	56.8	63.2	-	54.3	72.8	-	45.7	53.4	40.0	62.8	65.0	60.9
7/6/2016	7:12:00 AM	42.6	52.5	38.3	55.4	64.4	50.6	62.0	66.1	-	57.7	69.1	-	42.9	48.8	39.4	64.0	65.8	61.7
7/6/2016	7:13:00 AM	42.7	49.1	38.4	61.3	69.6	52.2	62.8	68.3	-	55.5	60.1	-	40.8	44.5	38.6	63.1	66.1	61.3
7/6/2016	7:14:00 AM	44.8	54.2	39.2	57.2	65.3	48.0	62.6	67.2	-	55.4	58.6	-	45.2	52.4	39.1	62.9	65.2	61.0
7/6/2016	7:15:00 AM	45.5	53.0	38.9	63.0	70.5	49.9	59.1	67.7	-	56.4	61.2	-	40.9	49.4	38.5	64.0	67.0	61.0
7/6/2016	7:16:00 AM	58.3	68.7	39.2	55.4	62.4	48.3	54.3	58.2	-	56.0	61.2	-	41.4	45.0	39.1	63.1	64.6	61.3
7/6/2016	7:17:00 AM	51.6	61.0	40.5	61.6	70.2	50.6	51.8	57.1	-	55.8	59.5	-	42.3	51.3	39.4	63.4	65.2	60.7
7/6/2016	7:18:00 AM	45.5	58.9	39.3	57.6	65.3	52.4	53.1	61.5	-	59.1	69.6	-	43.6	49.9	38.6	63.3	65.9	61.6
7/6/2016	7:19:00 AM	45.5	54.9	39.5	60.6	70.2	50.3	49.8	59.2	-	58.9	69.8	-	41.9	48.1	38.7	62.9	64.8	61.5
7/6/2016	7:20:00 AM	49.2	58.0	40.2	53.6	58.7	49.7	49.2	55.1	-	57.7	64.7	-	45.1	57.2	38.9	63.3	65.3	61.6
7/6/2016	7:21:00 AM	54.0	56.5	52.6	58.7	70.2	48.6	47.9	53.6	-	57.7	68.5	-	44.3	51.1	37.9	64.0	69.2	62.2
7/6/2016	7:22:00 AM	53.4	56.8	51.5	57.0	65.8	49.3	46.7	51.9	-	55.2	59.8	-	40.8	49.0	37.8	63.4	64.9	62.1
7/6/2016	7:23:00 AM	52.5	57.3	50.9	60.6	69.8	46.5	48.0	51.4	-	56.7	67.9	-	50.2	68.1	40.5	63.4	65.3	62.0
7/6/2016	7:24:00 AM	53.8	61.2	51.2	52.6	58.3	46.6	47.4	51.5	-	54.4	57.0	-	63.7	80.7	46.5	63.2	66.7	61.3
7/6/2016	7:25:00 AM	47.4	56.4	40.1	47.7	52.2	45.2	48.4	53.3	-	55.3	60.7	-	67.4	87.8	50.8	62.5	65.4	61.1
7/6/2016	7:26:00 AM	41.8	47.1	38.1	48.0	54.1	45.1	47.0	54.1	-	55.5	64.5	-	71.4	93.3	55.4	62.8	64.7	61.3
7/6/2016	7:27:00 AM	42.7	52.4	38.1	48.5	58.1	46.1	47.9	52.2	-	55.4	64.9	-	66.8	73.6	58.2	63.4	65.7	60.8
7/6/2016	7:28:00 AM	44.4	50.2	39.4	56.9	63.5	49.4	48.1	53.9	-	55.9	65.2	-	68.4	81.1	56.3	62.6	64.1	61.1
7/6/2016	7:29:00 AM	43.4	54.0	39.7	61.5	70.2	50.5	47.8	53.3	-	57.1	73.2	-	69.6	75.9	63.1	63.2	65.2	61.4
7/6/2016	7:30:00 AM	52.9	71.7	41.8	66.6	76.8	48.9	47.2	52.9	-	56.7	63.4	-	66.7	75.7	54.2	63.6	65.1	61.3
7/6/2016	7:31:00 AM	57.1	69.1	43.0	60.4	68.8	49.8	46.7	52.5	-	56.3	62.2	-	64.8	80.7	51.0	63.6	65.8	61.2
7/6/2016	7:32:00 AM	48.3	58.1	39.3	53.4	60.8	45.7	47.0	52.9	-	55.3	59.4	-	68.6	81.2	49.5	63.2	65.4	61.3
7/6/2016	7:33:00 AM	52.0	68.1	41.5	54.5	62.7	45.9	49.8	56.0	-	55.8	60.0	-	67.7	75.3	51.0	63.3	66.2	61.2
7/6/2016	7:34:00 AM	53.6	55.2	52.3	56.3	66.5	46.0	48.5	53.5	-	58.3	74.8	-	75.5	85.0	64.6	63.6	65.9	61.3
7/6/2016	7:35:00 AM	54.2	60.9	51.3	51.9	58.8	45.6	50.2	58.8	-	55.5	65.6	-	75.4	84.0	72.0	63.6	66.6	61.6
7/6/2016	7:36:00 AM	53.2	58.1	51.6	60.1	72.5	45.1	53.4	61.7	-	59.3	72.7	-	74.5	81.4	61.0	63.7	65.8	61.9
7/6/2016	7:37:00 AM	52.7	64.2	51.3	61.1	71.3	49.9	56.0	63.4	-	56.5	61.7	-	67.3	78.3	59.6	63.6	65.5	62.3
7/6/2016	7:38:00 AM	51.7	57.4	43.3	65.9	75.8	47.1	52.7	58.7	-	56.5	62.8	-	67.9	77.8	56.3	63.6	65.5	62.1
7/6/2016	7:39:00 AM	48.2	55.0	41.5	55.9	67.3	46.6	52.9	59.7	-	60.2	66.4	-	69.4	78.7	62.4	63.4	65.7	62.2
7/6/2016	7:40:00 AM	49.6	59.6	40.7	61.8	72.3	45.4	52.4	56.3	-	58.8	65.8	-	71.9	80.7	65.1	63.4	65.7	61.3

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	7:41:00 AM	48.6	59.9	42.0	55.1	62.7	48.3	53.0	57.5	-	55.9	60.5	-	74.5	83.5	67.9	63.4	65.5	61.6
7/6/2016	7:42:00 AM	47.6	57.5	41.0	50.1	56.5	45.0	50.7	56.2	-	55.6	58.9	-	73.2	82.2	67.0	63.9	65.8	61.9
7/6/2016	7:43:00 AM	45.7	51.7	40.5	54.3	61.7	46.2	54.5	58.5	-	55.2	57.7	-	73.2	83.5	68.9	63.7	66.2	61.8
7/6/2016	7:44:00 AM	58.9	69.8	43.2	46.6	54.6	43.7	51.0	54.0	-	54.0	56.4	-	70.0	78.5	60.0	63.8	65.5	61.5
7/6/2016	7:45:00 AM	50.1	56.9	39.8	46.4	50.3	43.9	50.2	58.7	-	54.8	57.2	-	71.1	81.2	63.3	63.8	66.6	61.5
7/6/2016	7:46:00 AM	53.2	59.7	51.9	48.7	56.7	45.3	61.8	66.6	-	55.2	57.2	-	78.1	89.1	69.6	63.6	65.4	61.8
7/6/2016	7:47:00 AM	60.6	71.8	51.6	48.1	53.2	45.4	56.2	65.2	-	55.2	59.0	-	76.4	86.2	67.9	63.7	66.5	61.8
7/6/2016	7:48:00 AM	53.9	63.0	51.6	49.0	52.5	46.7	52.3	62.4	-	56.3	58.6	-	70.1	80.8	53.2	64.0	66.9	61.9
7/6/2016	7:49:00 AM	52.9	54.7	51.5	50.9	59.6	46.6	47.1	49.9	-	57.2	61.2	-	68.3	79.7	51.9	64.0	67.0	62.1
7/6/2016	7:50:00 AM	53.3	56.2	51.6	55.7	62.9	47.6	46.6	51.6	-	60.6	73.7	-	66.4	75.0	55.8	63.7	65.5	61.7
7/6/2016	7:51:00 AM	46.3	55.8	40.2	52.1	56.3	48.7	46.4	52.5	-	57.7	65.3	-	62.2	76.4	41.2	63.3	65.4	61.5
7/6/2016	7:52:00 AM	44.5	51.2	40.7	50.8	54.9	48.3	46.3	53.3	-	56.1	59.8	-	71.1	84.1	49.1	63.7	65.4	62.1
7/6/2016	7:53:00 AM	47.5	59.8	40.7	52.6	61.4	47.7	47.3	52.9	-	56.4	60.3	-	68.1	82.9	63.3	63.6	65.4	62.1
7/6/2016	7:54:00 AM	43.2	49.0	39.0	51.8	57.8	46.1	47.3	53.2	-	56.4	58.0	-	68.9	81.4	49.2	63.9	66.8	61.7
7/6/2016	7:55:00 AM	44.9	53.5	38.5	53.5	65.4	47.2	48.2	53.3	-	56.7	61.0	-	74.0	87.4	52.7	63.5	66.0	61.8
7/6/2016	7:56:00 AM	45.9	57.1	38.4	49.5	54.6	46.8	47.6	51.8	-	57.1	63.7	-	72.5	88.3	36.3	63.6	65.4	61.6
7/6/2016	7:57:00 AM	48.3	55.4	38.3	55.0	67.1	46.8	48.5	51.0	-	57.0	63.0	-	46.4	67.4	35.0	64.1	66.1	62.4
7/6/2016	7:58:00 AM	52.8	54.6	51.6	58.2	66.0	46.6	48.2	50.8	-	57.5	75.3	-	38.2	52.1	34.8	63.9	65.9	62.3
7/6/2016	7:59:00 AM	54.4	61.0	51.6	60.4	67.6	49.3	51.1	57.6	-	54.5	57.5	-	37.9	41.7	34.9	64.1	66.1	62.1
7/6/2016	8:00:00 AM	54.0	60.3	51.8	56.4	68.3	49.4	50.2	54.5	-	54.2	56.2	-	40.3	58.6	35.3	64.4	67.1	61.5
7/6/2016	8:01:00 AM	53.8	60.3	51.8	50.1	57.5	46.4	51.6	70.5	-	54.4	61.1	-	46.7	62.5	35.3	64.2	66.6	62.1
7/6/2016	8:02:00 AM	52.9	59.7	51.8	56.4	64.5	47.7	47.8	50.0	-	53.8	59.2	-	48.5	65.1	35.5	63.9	65.8	62.1
7/6/2016	8:03:00 AM	51.2	57.8	45.5	51.6	58.0	47.3	47.6	50.2	-	56.9	68.8	-	48.2	67.0	35.5	64.1	66.7	62.5
7/6/2016	8:04:00 AM	49.1	59.1	43.1	58.3	67.7	46.0	47.0	54.8	-	54.4	68.5	-	44.2	58.9	36.1	64.0	67.7	62.4
7/6/2016	8:05:00 AM	49.9	56.0	44.8	52.8	60.0	45.7	48.4	59.7	-	52.6	54.8	-	40.9	59.4	35.1	64.1	66.3	61.9
7/6/2016	8:06:00 AM	51.6	57.9	48.2	56.1	68.7	45.1	48.4	58.0	-	55.9	68.9	-	44.3	62.4	34.9	64.3	66.5	62.2
7/6/2016	8:07:00 AM	50.9	59.6	47.7	57.2	64.5	47.9	46.1	49.3	-	63.6	88.9	-	44.4	60.0	35.1	64.0	66.3	62.1
7/6/2016	8:08:00 AM	52.2	59.5	48.0	51.1	56.6	48.2	49.3	65.6	-	52.4	61.0	-	41.7	58.0	35.3	65.0	71.9	63.1
7/6/2016	8:09:00 AM	50.5	57.6	47.9	56.4	63.3	48.5	47.1	53.9	-	53.5	61.0	-	41.8	58.3	35.0	64.6	67.3	62.6
7/6/2016	8:10:00 AM	55.2	69.1	53.0	55.5	64.9	50.3	46.2	60.1	-	53.7	56.9	-	63.4	78.9	36.2	64.4	71.3	62.2
7/6/2016	8:11:00 AM	55.6	64.1	52.7	59.0	67.4	49.0	49.3	64.4	-	52.9	56.0	-	53.0	71.9	35.6	63.8	66.4	61.8
7/6/2016	8:12:00 AM	53.7	58.0	52.1	56.6	67.5	49.3	47.0	50.7	-	54.2	59.1	-	41.5	55.9	35.4	64.3	66.1	62.6
7/6/2016	8:13:00 AM	53.7	60.3	52.2	56.4	63.1	50.0	47.7	52.5	-	54.3	60.9	-	49.7	62.2	36.4	63.8	65.8	61.9
7/6/2016	8:14:00 AM	54.4	60.6	52.0	54.1	62.3	49.4	47.4	50.9	-	54.5	59.8	-	46.7	59.6	36.9	63.5	65.4	61.9
7/6/2016	8:15:00 AM	54.5	61.4	46.9	60.5	67.5	49.1	47.8	51.9	-	54.7	58.7	-	51.2	67.0	37.0	64.3	67.0	62.5
7/6/2016	8:16:00 AM	48.6	59.3	43.9	57.6	65.2	48.2	48.1	62.0	-	55.6	61.3	-	60.4	74.2	37.8	64.4	66.2	63.0
7/6/2016	8:17:00 AM	50.1	60.5	43.2	50.9	54.4	48.3	47.8	59.4	-	55.9	61.5	-	66.6	86.3	37.0	64.7	66.6	62.8

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	8:18:00 AM	54.7	69.9	43.6	51.1	53.6	47.5	46.9	50.3	-	56.0	61.4	-	54.0	71.7	35.8	64.5	66.5	62.8
7/6/2016	8:19:00 AM	49.0	59.0	43.9	51.0	59.9	47.2	48.5	57.2	-	56.3	60.2	-	45.1	63.9	35.6	64.3	66.7	62.2
7/6/2016	8:20:00 AM	47.1	58.9	44.2	51.4	55.1	48.3	46.6	53.1	-	56.4	61.0	-	48.9	66.5	35.0	64.7	73.9	62.5
7/6/2016	8:21:00 AM	46.4	53.9	43.5	51.4	54.9	49.2	46.1	53.1	-	55.9	60.2	-	49.2	69.2	35.1	64.0	66.8	62.0
7/6/2016	8:22:00 AM	52.6	55.8	43.4	49.8	52.8	47.5	48.1	57.8	-	55.8	58.5	-	46.5	69.0	36.0	63.6	65.6	61.7
7/6/2016	8:23:00 AM	53.2	55.2	51.7	48.6	50.5	46.9	46.7	51.8	-	55.9	65.1	-	38.0	48.3	35.0	64.7	67.1	62.2
7/6/2016	8:24:00 AM	52.7	53.6	51.8	48.4	51.0	46.6	45.8	50.1	-	57.7	65.7	-	37.7	51.3	34.5	64.2	68.0	62.4
7/6/2016	8:25:00 AM	52.8	57.7	51.7	49.5	52.2	47.1	46.6	51.0	-	55.7	60.4	-	50.7	72.4	34.9	64.5	72.2	62.1
7/6/2016	8:26:00 AM	52.7	61.6	51.3	50.6	58.2	46.7	52.0	62.5	-	56.0	59.5	-	37.4	41.2	34.9	64.3	68.3	61.2
7/6/2016	8:27:00 AM	52.9	57.4	51.7	51.8	59.7	48.3	48.1	52.3	-	55.8	58.3	-	41.8	58.0	35.5	64.5	68.5	62.9
7/6/2016	8:28:00 AM	55.0	71.1	42.1	51.7	54.7	48.9	47.0	53.2	-	55.8	59.9	-	42.5	60.5	35.0	65.1	67.3	63.3
7/6/2016	8:29:00 AM	51.4	65.4	40.1	52.3	62.2	48.7	50.0	60.1	-	56.4	61.2	-	39.9	59.2	34.9	64.7	67.2	62.5
7/6/2016	8:30:00 AM	62.0	87.7	39.1	59.3	65.6	49.0	49.0	60.1	-	57.2	60.9	-	48.3	71.2	35.6	64.9	75.7	62.9
7/6/2016	8:31:00 AM	48.6	56.2	39.2	55.6	63.5	50.0	49.2	55.0	-	57.3	60.5	-	39.8	59.2	35.0	64.7	68.1	62.4
7/6/2016	8:32:00 AM	44.3	52.5	37.8	62.6	78.0	48.3	47.3	52.0	-	56.7	59.8	-	46.8	64.5	35.3	64.8	68.1	61.9
7/6/2016	8:33:00 AM	43.7	54.5	37.2	51.5	61.2	46.9	52.5	67.7	-	57.5	62.1	-	53.5	69.2	36.1	65.0	68.1	62.1
7/6/2016	8:34:00 AM	51.4	56.7	40.7	47.7	51.7	45.4	53.3	66.0	-	57.3	60.2	-	54.2	69.2	36.6	64.9	68.5	62.9
7/6/2016	8:35:00 AM	52.4	58.7	51.4	47.5	49.8	46.0	49.4	61.9	-	57.9	60.7	-	52.1	70.2	34.9	64.9	68.8	62.7
7/6/2016	8:36:00 AM	52.4	56.2	51.5	65.2	82.4	46.2	48.9	60.5	-	61.5	72.2	-	42.6	59.8	35.0	65.7	69.5	62.4
7/6/2016	8:37:00 AM	54.1	68.3	51.6	48.0	56.2	46.1	47.2	53.3	-	58.4	61.8	-	41.4	59.4	34.8	65.8	69.6	62.9
7/6/2016	8:38:00 AM	52.9	57.2	51.6	52.2	59.4	46.0	47.2	50.9	-	57.9	60.7	-	40.0	55.8	35.4	65.0	67.7	63.6
7/6/2016	8:39:00 AM	59.7	69.4	51.8	51.9	59.8	46.7	46.9	52.2	-	58.4	60.8	-	42.5	59.2	35.7	64.4	66.7	62.3
7/6/2016	8:40:00 AM	52.5	55.5	51.4	54.4	60.0	49.4	47.6	52.7	-	58.5	62.3	-	41.8	57.4	36.0	64.4	67.3	62.7
7/6/2016	8:41:00 AM	52.6	55.9	51.2	53.5	62.2	47.5	48.5	56.1	-	57.3	59.7	-	38.2	44.8	35.4	65.5	70.2	63.1
7/6/2016	8:42:00 AM	52.1	53.6	51.0	50.2	52.1	48.3	48.6	53.5	-	57.8	60.3	-	37.7	47.9	34.8	65.6	68.7	62.7
7/6/2016	8:43:00 AM	50.7	65.7	43.0	50.8	55.1	48.8	46.9	55.1	-	56.9	59.4	-	39.1	55.3	35.1	64.5	66.8	62.6
7/6/2016	8:44:00 AM	44.3	50.4	41.3	53.1	59.4	50.2	46.8	50.1	-	56.5	60.0	-	38.2	50.2	34.8	65.2	67.5	62.8
7/6/2016	8:45:00 AM	43.1	49.6	40.9	52.2	57.0	48.9	47.6	55.6	-	58.1	63.8	-	40.3	61.9	35.3	64.5	68.0	62.2
7/6/2016	8:46:00 AM	46.6	56.6	41.6	50.7	52.8	48.9	51.6	59.6	-	56.9	61.7	-	48.8	66.2	35.3	64.9	68.3	62.7
7/6/2016	8:47:00 AM	59.9	75.5	41.1	50.7	55.8	48.5	48.9	56.7	-	57.4	61.1	-	39.7	53.2	35.5	64.4	67.7	61.4
7/6/2016	8:48:00 AM	50.4	59.1	39.7	50.3	54.0	48.3	50.8	61.1	-	57.3	60.7	-	38.2	48.5	35.0	64.2	66.4	61.3
7/6/2016	8:49:00 AM	56.0	76.2	51.1	51.2	58.0	47.5	48.7	55.0	-	58.0	60.7	-	42.7	57.0	35.5	64.7	67.0	62.3
7/6/2016	8:50:00 AM	53.3	69.2	50.9	55.5	61.7	48.3	49.3	54.4	-	57.7	62.4	-	38.3	46.6	35.0	66.2	69.2	63.2
7/6/2016	8:51:00 AM	53.0	57.1	51.3	52.4	57.6	48.7	49.9	58.5	-	57.4	60.2	-	42.6	63.2	35.4	65.2	69.2	62.6
7/6/2016	8:52:00 AM	52.7	56.8	51.1	62.2	70.7	51.2	48.0	51.1	-	57.5	60.1	-	39.7	54.0	35.6	65.0	67.6	63.0
7/6/2016	8:53:00 AM	52.4	55.3	51.2	57.0	64.9	50.0	47.5	57.5	-	57.2	60.4	-	43.1	56.0	35.7	64.5	68.1	62.1
7/6/2016	8:54:00 AM	53.8	61.1	51.6	57.5	73.8	49.1	57.0	66.5	-	56.9	59.8	-	44.9	66.0	35.7	64.9	67.8	62.4

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	8:55:00 AM	52.4	57.3	51.1	57.4	78.3	49.0	51.7	60.3	-	58.3	62.2	-	40.5	52.0	35.1	65.3	68.8	63.1
7/6/2016	8:56:00 AM	53.4	61.1	51.2	61.8	80.0	49.1	51.8	65.7	-	58.9	62.3	-	39.3	48.9	35.5	65.1	67.3	62.6
7/6/2016	8:57:00 AM	56.2	63.5	51.4	63.0	74.7	53.4	49.5	54.5	-	59.4	61.2	-	41.6	62.9	35.3	65.0	67.6	62.7
7/6/2016	8:58:00 AM	54.4	63.2	43.3	62.4	72.6	53.3	49.7	53.2	-	58.2	61.3	-	43.2	56.3	36.0	64.9	68.0	62.2
7/6/2016	8:59:00 AM	49.2	58.0	43.8	59.6	69.8	51.1	48.5	51.9	-	59.1	61.3	-	57.3	70.6	36.0	64.4	67.0	62.2
7/6/2016	9:00:00 AM	46.6	59.4	42.7	60.9	69.1	53.1	47.8	52.1	-	58.0	61.0	-	38.2	45.2	36.0	65.3	67.7	61.8
7/6/2016	9:01:00 AM	60.6	73.6	42.0	60.1	70.4	54.5	48.3	50.3	-	58.4	61.1	-	39.3	53.7	35.6	65.4	71.2	62.9
7/6/2016	9:02:00 AM	51.4	69.8	41.0	61.6	78.0	53.1	48.1	50.7	-	57.8	64.3	-	43.9	56.1	35.4	65.8	71.9	62.0
7/6/2016	9:03:00 AM	55.1	66.5	50.2	60.7	69.4	51.4	49.2	58.8	-	57.6	62.5	-	43.0	61.6	35.8	65.5	69.4	62.7
7/6/2016	9:04:00 AM	52.0	56.6	50.8	58.8	68.3	51.2	50.2	55.9	-	56.6	58.7	-	40.7	49.9	36.3	65.1	67.4	61.8
7/6/2016	9:05:00 AM	53.4	55.6	51.5	64.1	85.7	51.0	49.6	53.9	-	58.0	62.0	-	38.2	50.3	35.4	65.0	68.1	62.0
7/6/2016	9:06:00 AM	53.0	57.1	51.7	58.4	67.2	52.3	48.9	53.0	-	56.6	61.4	-	51.3	67.7	35.6	64.9	67.4	62.9
7/6/2016	9:07:00 AM	53.1	56.8	51.6	61.0	71.3	50.6	49.5	54.0	-	56.4	58.1	-	47.7	63.0	35.3	65.2	68.4	62.7
7/6/2016	9:08:00 AM	59.1	69.3	51.8	57.4	66.8	49.9	49.8	54.1	-	58.1	65.0	-	40.9	52.7	35.5	65.4	68.5	62.8
7/6/2016	9:09:00 AM	53.0	58.0	51.4	62.1	73.2	50.1	50.2	55.2	-	57.1	59.5	-	39.9	53.5	35.4	65.1	69.4	62.3
7/6/2016	9:10:00 AM	54.3	64.7	51.5	60.9	74.6	53.8	59.1	69.5	-	59.7	69.2	-	39.8	51.7	35.4	65.5	68.6	61.3
7/6/2016	9:11:00 AM	52.6	53.8	51.7	61.9	72.8	55.5	58.3	72.2	-	58.9	65.7	-	37.9	51.5	35.3	65.3	68.5	62.5
7/6/2016	9:12:00 AM	52.6	54.2	51.6	63.2	76.5	58.6	48.4	52.7	-	57.6	60.6	-	39.0	53.6	35.4	65.5	69.1	62.7
7/6/2016	9:13:00 AM	54.8	64.9	51.7	60.5	63.1	58.2	48.0	53.5	-	57.0	61.6	-	42.0	58.8	35.1	65.6	68.3	63.1
7/6/2016	9:14:00 AM	56.4	71.6	40.8	64.2	79.3	56.7	50.1	60.4	-	58.2	75.5	-	52.8	70.7	34.9	65.4	69.4	62.7
7/6/2016	9:15:00 AM	45.3	60.4	39.6	77.1	90.2	57.5	48.5	53.9	-	57.9	76.3	-	41.5	55.4	35.4	65.4	68.7	62.5
7/6/2016	9:16:00 AM	45.2	58.7	41.4	62.3	73.4	54.5	48.4	51.3	-	58.3	61.6	-	43.7	61.0	35.5	65.3	68.5	63.1
7/6/2016	9:17:00 AM	48.7	69.3	40.2	59.1	73.5	54.3	49.5	56.3	-	58.1	65.2	-	37.0	39.1	34.5	65.0	68.2	63.1
7/6/2016	9:18:00 AM	46.7	57.8	39.7	62.3	76.7	54.6	49.6	56.8	-	57.9	60.2	-	38.4	52.6	35.4	65.7	69.4	63.1
7/6/2016	9:19:00 AM	53.5	58.9	49.7	66.1	75.4	59.2	49.2	53.7	-	57.9	61.7	-	36.8	42.2	34.9	65.3	68.6	62.5
7/6/2016	9:20:00 AM	53.1	55.5	51.5	67.6	87.7	52.6	56.6	64.2	-	57.9	61.5	-	49.9	74.2	35.0	65.3	68.9	62.8
7/6/2016	9:21:00 AM	53.5	56.4	52.4	65.1	77.5	57.2	57.8	69.0	-	56.9	59.7	-	39.6	51.6	34.9	65.9	68.8	62.9
7/6/2016	9:22:00 AM	53.7	56.1	52.4	62.7	78.5	52.0	48.0	52.4	-	56.9	59.2	-	53.1	73.7	35.8	65.6	68.9	62.1
7/6/2016	9:23:00 AM	53.8	59.4	52.5	60.1	72.4	49.3	48.8	54.9	-	58.7	64.2	-	45.1	62.9	35.4	66.1	72.1	62.8
7/6/2016	9:24:00 AM	53.4	59.7	52.3	52.9	65.4	46.7	54.6	65.7	-	58.8	61.9	-	43.6	61.1	35.7	65.8	80.4	62.4
7/6/2016	9:25:00 AM	53.8	56.8	52.3	53.9	60.5	49.0	51.7	62.4	-	58.9	65.1	-	41.3	56.0	36.2	68.4	72.4	62.0
7/6/2016	9:26:00 AM	54.9	64.3	52.9	52.1	59.1	48.5	49.5	53.5	-	61.0	69.1	-	44.2	57.0	36.0	66.2	71.3	63.1
7/6/2016	9:27:00 AM	54.5	59.9	52.7	49.5	53.8	47.0	48.6	50.7	-	59.0	69.5	-	44.7	56.4	35.5	66.8	71.3	63.7
7/6/2016	9:28:00 AM	54.5	66.6	52.6	55.4	62.7	50.0	48.6	53.5	-	63.6	73.0	-	41.2	55.8	35.6	66.0	69.8	61.2
7/6/2016	9:29:00 AM	54.3	56.8	52.7	51.7	57.2	47.8	47.3	51.2	-	73.8	90.7	-	42.0	55.6	35.7	65.6	72.0	62.7
7/6/2016	9:30:00 AM	54.6	65.7	44.6	52.9	58.3	47.5	49.0	53.5	-	57.9	61.4	-	39.5	53.6	35.5	75.9	95.2	63.6
7/6/2016	9:31:00 AM	48.0	55.3	43.0	54.6	60.9	52.0	49.8	55.0	-	58.1	62.8	-	43.3	59.6	35.8	65.6	69.8	63.0

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	9:32:00 AM	46.8	54.0	43.7	53.4	57.5	50.4	53.1	65.7	-	57.8	61.2	-	42.2	55.0	35.5	66.1	69.3	62.2
7/6/2016	9:33:00 AM	48.3	58.2	43.1	55.1	62.5	50.8	49.2	57.9	-	57.5	59.7	-	42.6	59.2	36.2	64.7	68.0	61.8
7/6/2016	9:34:00 AM	48.6	56.0	45.7	53.8	60.3	50.5	50.0	54.0	-	58.5	61.7	-	40.2	50.9	35.4	64.9	68.4	61.1
7/6/2016	9:35:00 AM	50.2	56.6	43.2	54.0	58.4	50.8	48.8	52.0	-	57.7	62.3	-	41.2	54.5	35.1	65.5	69.2	63.0
7/6/2016	9:36:00 AM	61.8	76.9	51.6	51.8	56.2	49.8	48.8	55.2	-	57.6	60.7	-	38.4	48.4	35.3	65.0	69.7	61.6
7/6/2016	9:37:00 AM	66.9	79.5	53.6	52.2	61.3	48.7	48.0	52.1	-	57.6	60.8	-	39.1	50.3	36.2	65.1	70.2	61.5
7/6/2016	9:38:00 AM	54.3	56.1	53.2	52.6	59.1	48.5	49.8	55.4	-	57.6	61.0	-	40.6	52.8	35.4	64.5	67.1	61.0
7/6/2016	9:39:00 AM	54.2	56.7	53.0	54.6	61.0	48.9	48.6	55.0	-	56.8	59.9	-	39.8	57.2	36.0	65.3	68.0	61.8
7/6/2016	9:40:00 AM	54.1	57.9	53.0	51.4	58.0	48.1	49.4	53.8	-	57.2	60.3	-	41.2	54.6	35.8	65.0	68.6	62.1
7/6/2016	9:41:00 AM	53.9	58.3	52.7	52.2	56.1	49.9	49.7	53.5	-	58.0	62.3	-	51.2	68.4	36.4	65.0	68.7	60.8
7/6/2016	9:42:00 AM	54.0	55.5	52.9	53.1	60.8	49.5	50.4	59.4	-	57.9	61.7	-	54.9	72.8	36.2	65.6	72.6	62.0
7/6/2016	9:43:00 AM	62.9	75.8	52.8	51.8	56.0	49.3	50.5	57.5	-	57.1	59.4	-	41.7	58.2	36.0	64.9	76.0	60.6
7/6/2016	9:44:00 AM	62.6	74.8	53.0	51.9	57.4	48.9	51.3	56.2	-	58.1	71.6	-	49.4	62.9	36.2	66.3	72.4	62.7
7/6/2016	9:45:00 AM	60.9	71.2	53.5	55.6	61.0	50.7	48.1	51.1	-	58.2	67.7	-	53.1	70.0	36.1	65.3	72.5	61.0
7/6/2016	9:46:00 AM	54.3	58.4	52.9	57.8	66.2	52.7	47.6	50.3	-	58.1	62.7	-	43.8	55.6	36.3	65.8	69.8	62.5
7/6/2016	9:47:00 AM	51.5	55.9	44.8	56.1	61.0	52.3	48.2	51.5	-	58.0	60.5	-	42.7	54.5	35.5	65.6	72.4	62.1
7/6/2016	9:48:00 AM	47.9	54.0	44.0	59.7	71.1	52.5	51.0	60.2	-	57.2	61.2	-	43.7	58.7	36.3	65.4	69.5	62.1
7/6/2016	9:49:00 AM	46.6	50.3	44.7	54.9	62.1	50.4	48.9	55.0	-	57.2	60.9	-	42.8	51.7	37.2	65.6	69.0	61.7
7/6/2016	9:50:00 AM	47.1	51.4	44.9	57.7	66.7	50.7	48.6	52.5	-	58.7	66.0	-	49.6	64.8	35.8	66.0	70.9	63.0
7/6/2016	9:51:00 AM	56.1	64.3	44.8	55.8	64.9	50.8	48.6	52.5	-	57.1	72.6	-	48.4	64.2	36.0	65.3	70.3	59.1
7/6/2016	9:52:00 AM	58.6	70.2	53.2	52.6	54.8	50.1	52.8	63.4	-	56.7	59.1	-	47.9	66.4	35.7	65.7	71.3	61.1
7/6/2016	9:53:00 AM	56.3	70.3	54.1	53.2	57.4	50.7	55.3	72.6	-	56.9	60.0	-	51.4	64.3	36.2	65.7	70.0	62.4
7/6/2016	9:54:00 AM	55.5	63.5	54.1	55.4	60.9	51.0	59.6	73.1	-	57.4	60.9	-	41.7	57.9	36.0	65.6	69.5	62.1
7/6/2016	9:55:00 AM	55.5	57.8	53.9	55.7	61.8	52.2	54.3	72.3	-	58.0	60.6	-	41.4	51.8	36.0	64.9	69.2	60.7
7/6/2016	9:56:00 AM	55.2	60.7	53.0	54.7	60.3	51.5	50.0	67.3	-	56.5	60.3	-	40.6	52.7	36.0	65.2	69.4	61.1
7/6/2016	9:57:00 AM	57.6	63.2	53.1	55.7	62.2	50.1	49.0	63.7	-	56.9	60.7	-	39.2	47.3	36.1	65.9	69.3	63.0
7/6/2016	9:58:00 AM	54.2	56.0	53.0	51.9	55.6	49.3	48.6	59.5	-	57.8	62.8	-	38.1	42.3	35.5	65.1	69.2	61.5
7/6/2016	9:59:00 AM	55.9	62.4	53.4	57.4	68.3	49.5	49.7	59.3	-	57.9	62.8	-	41.8	53.3	36.2	65.4	70.0	61.1
7/6/2016	10:00:00 AM	57.9	68.6	53.4	58.1	64.1	53.4	48.0	55.4	-			-	39.9	52.5	35.8			
7/6/2016	10:01:00 AM	56.5	62.1	53.6	66.0	75.0	53.6	50.8	60.5	-			-	40.3	57.6	35.7			
7/6/2016	10:02:00 AM	54.0	60.0	52.8	53.7	58.5	50.3	51.2	62.6	-			-	39.7	51.5	35.8			
7/6/2016	10:03:00 AM	53.9	57.1	52.8	58.7	74.9	49.9	49.5	58.6	-			-	39.3	46.7	36.1			
7/6/2016	10:04:00 AM	51.7	63.5	43.4	53.4	55.9	51.5	48.4	52.2	-			-	40.6	56.3	36.1			
7/6/2016	10:05:00 AM	48.6	56.7	42.7	59.4	66.4	53.4	53.8	63.7	-			-	38.4	48.3	35.5			
7/6/2016	10:06:00 AM	59.4	70.9	43.6	65.0	70.1	57.0	51.9	61.0	-			-	40.4	59.1	35.8			
7/6/2016	10:07:00 AM	49.8	62.9	44.2	59.3	68.5	51.7	50.8	58.3	-			-	39.1	51.0	35.7			
7/6/2016	10:08:00 AM	50.3	58.7	44.6	54.8	58.1	50.9	48.4	51.1	-			-	38.2	48.1	35.5			

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	10:09:00 AM	54.9	66.2	51.5	57.0	61.9	54.3	51.6	69.6	-				40.4	51.8	35.8			
7/6/2016	10:10:00 AM	68.5	79.6	54.8	70.3	84.1	53.0	51.1	61.8	-				37.9	44.6	35.5			
7/6/2016	10:11:00 AM	54.4	58.6	53.1	70.9	85.6	56.2	52.5	70.0	-				40.9	57.8	35.3			
7/6/2016	10:12:00 AM	54.5	59.0	53.4	60.0	71.7	55.8	50.5	54.6	-				37.9	44.8	35.6			
7/6/2016	10:13:00 AM	57.5	75.3	53.0	66.9	90.1	54.2	52.4	57.6	-				39.1	47.9	35.7			
7/6/2016	10:14:00 AM	56.3	68.9	52.6	60.9	72.2	53.3	52.7	57.0	-				41.8	53.6	36.0			
7/6/2016	10:15:00 AM	54.7	61.0	52.5	63.9	74.3	57.8	59.8	69.1	-				46.0	63.3	36.1			
7/6/2016	10:16:00 AM	54.8	66.3	52.5	66.6	86.5	54.6	60.4	70.5	-				48.2	62.5	35.6			
7/6/2016	10:17:00 AM	55.0	65.7	52.8	60.5	70.3	53.4	50.7	54.5	-				46.1	58.8	35.7			
7/6/2016	10:18:00 AM	54.4	57.8	52.7	63.5	77.1	54.7	50.8	53.0	-				43.1	54.5	36.1			
7/6/2016	10:19:00 AM	60.2	70.0	53.0	63.6	78.7	52.6	52.4	59.0	-				43.4	57.9	35.8			
7/6/2016	10:20:00 AM	54.4	67.9	52.8	65.2	84.2	54.3	50.6	56.5	-				39.1	49.1	36.0			
7/6/2016	10:21:00 AM	53.8	57.0	52.8	59.8	72.1	52.6	50.7	53.9	-				39.1	47.7	35.5			
7/6/2016	10:22:00 AM	50.2	55.4	45.6	66.4	88.2	54.1	51.0	55.8	-				40.2	57.3	35.8			
7/6/2016	10:23:00 AM	56.7	69.9	45.3	63.4	75.7	55.3	52.3	59.0	-				43.6	65.5	35.5			
7/6/2016	10:24:00 AM	63.8	76.3	44.9	60.6	70.0	55.2	49.9	53.3	-				43.2	58.7	36.1			
7/6/2016	10:25:00 AM	47.7	57.4	44.9	68.0	82.1	56.6	49.9	53.6	-				46.3	67.0	35.6			
7/6/2016	10:26:00 AM	48.9	57.8	45.0	61.7	71.8	56.5	53.4	61.2	-				45.8	66.7	36.2			
7/6/2016	10:27:00 AM	54.0	56.1	52.0	64.7	77.8	57.3	55.3	67.7	-				40.5	47.0	35.6			
7/6/2016	10:28:00 AM	54.5	57.6	53.2	62.9	76.4	56.8	60.8	67.8	-				39.3	47.0	35.6			
7/6/2016	10:29:00 AM	57.8	72.3	52.7	65.6	71.7	58.1	51.6	56.1	-				40.6	51.6	36.8			
7/6/2016	10:30:00 AM	55.0	63.9	52.5	63.9	74.8	58.1	52.9	65.7	-				42.7	62.1	35.6			
7/6/2016	10:31:00 AM	63.5	76.3	52.8	61.5	66.6	56.8	56.9	67.0	-				43.0	54.4	36.3			
7/6/2016	10:32:00 AM	53.6	56.8	52.3	62.0	72.6	57.0	53.6	63.7	-				39.5	48.4	36.0			
7/6/2016	10:33:00 AM	53.5	58.9	52.0	62.6	75.3	56.8	52.6	57.2	-				40.3	48.2	35.8			
7/6/2016	10:34:00 AM	55.4	71.1	52.7	61.0	81.3	56.2	51.1	55.3	-				41.8	56.8	35.8			
7/6/2016	10:35:00 AM	63.9	77.2	52.1	62.4	74.3	55.6	52.8	59.7	-				40.7	54.0	36.0			
7/6/2016	10:36:00 AM	57.8	70.4	52.8	61.2	79.3	55.4	51.8	55.0	-				42.4	55.1	35.8			
7/6/2016	10:37:00 AM	67.3	88.1	52.5	70.1	90.2	58.9	51.7	54.9	-				38.8	43.4	36.0			
7/6/2016	10:38:00 AM	53.4	57.9	52.1	69.2	86.7	55.7	51.7	54.9	-				38.8	48.0	35.6			
7/6/2016	10:39:00 AM	53.5	57.1	52.0	61.9	73.3	56.9	53.4	74.6	-				38.4	42.8	35.8			
7/6/2016	10:40:00 AM	54.2	58.0	52.5	63.6	77.7	51.6	52.7	59.5	-				40.5	55.5	35.6			
7/6/2016	10:41:00 AM	53.8	61.5	51.9	58.8	65.5	51.7	51.0	54.7	-				39.2	51.9	36.0			
7/6/2016	10:42:00 AM	53.9	60.3	51.9	58.9	66.2	53.2	52.1	55.0	-				38.6	43.9	35.8			
7/6/2016	10:43:00 AM	54.5	63.9	52.5	55.0	59.3	52.4	52.3	56.6	-				41.3	54.0	35.8			
7/6/2016	10:44:00 AM	53.2	55.6	52.2	62.3	75.6	51.2	52.8	55.2	-				39.3	53.4	36.0			
7/6/2016	10:45:00 AM	53.1	54.6	51.7	59.2	65.0	54.2	53.1	58.6	-				40.5	51.4	36.3			

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

		LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
Date	Time	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	10:46:00 AM	53.5	56.8	52.2	56.7	64.1	52.8	52.8	57.4	-				40.4	54.7	35.5			
7/6/2016	10:47:00 AM	53.9	62.4	52.1	55.2	58.4	53.2	53.2	60.1	-				38.0	51.7	35.5			
7/6/2016	10:48:00 AM	63.0	73.7	51.7	56.3	63.4	52.5	52.8	58.2	-				37.7	42.2	35.6			
7/6/2016	10:49:00 AM	53.2	57.9	52.0	71.9	83.1	56.9	52.2	56.3	-				40.3	48.4	35.5			
7/6/2016	10:50:00 AM	54.4	60.7	52.1	61.6	65.7	57.8	52.9	56.4	-				39.3	53.6	35.6			
7/6/2016	10:51:00 AM	54.2	64.2	51.7	62.3	66.4	58.0	53.7	57.5	-				44.7	58.9	36.1			
7/6/2016	10:52:00 AM	56.8	65.0	52.0	65.0	76.2	58.3	52.0	58.0	-				44.6	62.3	36.1			
7/6/2016	10:53:00 AM	56.0	66.9	52.7	64.5	69.2	59.9	52.0	57.1	-				40.0	47.3	36.0			
7/6/2016	10:54:00 AM	55.9	69.1	52.4	60.6	66.0	56.7	50.9	62.0	-				39.5	47.7	35.5			
7/6/2016	10:55:00 AM	58.9	79.3	52.0	63.7	68.7	57.2	50.8	54.9	-				42.6	58.3	35.4			
7/6/2016	10:56:00 AM	53.1	57.4	51.8	65.4	71.1	62.6	52.5	54.7	-				47.0	65.2	36.3			
7/6/2016	10:57:00 AM	53.6	57.1	51.9	64.0	70.2	59.9	52.6	56.5	-				38.3	48.3	35.4			
7/6/2016	10:58:00 AM	55.2	68.4	52.0	62.0	67.2	55.7	54.3	60.4	-				41.8	61.5	35.1			
7/6/2016	10:59:00 AM	57.1	69.5	52.5	62.4	67.3	57.8	51.3	55.8	-				49.4	69.4	35.5			
7/6/2016	11:00:00 AM	63.2	81.5	52.1										39.4	56.9	35.7			
7/6/2016	11:01:00 AM	56.3	66.9	52.0										38.4	43.6	35.6			
7/6/2016	11:02:00 AM	55.5	72.0	52.3										38.3	53.2	35.3			
7/6/2016	11:03:00 AM	61.6	83.2	53.0										37.7	42.1	35.0			
7/6/2016	11:04:00 AM	67.6	79.8	53.0										37.9	46.8	35.1			
7/6/2016	11:05:00 AM	53.1	64.0	47.2										37.4	42.7	35.3			
7/6/2016	11:06:00 AM	50.3	56.3	48.5										38.4	53.2	35.5			
7/6/2016	11:07:00 AM	64.6	78.2	49.3										43.4	58.7	35.5			
7/6/2016	11:08:00 AM	54.1	58.8	48.5										37.5	41.1	35.4			
7/6/2016	11:09:00 AM	54.4	58.4	53.1										37.5	43.0	35.0			
7/6/2016	11:10:00 AM	54.0	55.3	53.0										38.0	48.1	35.4			
7/6/2016	11:11:00 AM	55.2	58.4	53.4										39.2	51.2	35.6			
7/6/2016	11:12:00 AM	55.0	56.9	54.0										38.8	46.9	35.6			
7/6/2016	11:13:00 AM	54.7	61.4	53.4										39.1	53.5	35.0			
7/6/2016	11:14:00 AM	54.1	56.1	53.0										37.9	44.3	35.6			
7/6/2016	11:15:00 AM	54.3	55.5	52.9										38.3	53.4	35.5			
7/6/2016	11:16:00 AM	63.8	75.8	52.9										37.8	43.3	35.6			
7/6/2016	11:17:00 AM	55.2	61.0	53.6										38.6	43.4	35.8			
7/6/2016	11:18:00 AM	55.0	58.2	53.2										44.9	64.6	36.1			
7/6/2016	11:19:00 AM	55.6	72.1	53.0										41.0	53.0	35.5			
7/6/2016	11:20:00 AM	54.2	58.6	52.8										41.7	59.2	35.4			
7/6/2016	11:21:00 AM	54.9	61.8	52.9										38.0	46.4	35.1			
7/6/2016	11:22:00 AM	61.7	74.0	53.1										38.4	42.2	35.6			

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.

Measured Long-Term Noise Data at LT-1 through LT-6

Date	Time	LT-1: Shelter Island HPD Station, San Diego			LT-2: B Street Pier, San Diego			LT-3: Coronado Municipal Golf Course, Coronado			LT-4: E. 31st Street, National City			LT-5: Chula Vista Wildlife Reserve, Chula Vista			LT6: Imperial Beach Lifeguard Tower		
		Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin	Leq	Lmax	Lmin
7/6/2016	11:23:00 AM	64.0	77.0	52.9									40.0	54.2	35.3				
7/6/2016	11:24:00 AM	61.8	83.4	52.8									39.0	53.2	35.7				
7/6/2016	11:25:00 AM	53.8	58.0	52.6									37.3	44.7	35.3				
7/6/2016	11:26:00 AM	54.2	56.1	52.9									39.6	53.1	35.3				
7/6/2016	11:27:00 AM	53.5	58.5	52.2									39.0	52.5	34.9				
7/6/2016	11:28:00 AM	54.6	59.5	52.5									38.4	51.5	35.4				
7/6/2016	11:29:00 AM	57.5	72.4	53.6									37.9	53.1	35.3				
7/6/2016	11:30:00 AM	63.9	74.6	54.3									37.3	46.9	35.1				
7/6/2016	11:31:00 AM	54.0	58.5	52.5									38.5	50.6	35.4				
7/6/2016	11:32:00 AM	55.1	62.4	53.1									37.8	44.0	35.4				
7/6/2016	11:33:00 AM	54.3	58.5	52.9									39.9	47.9	35.4				
7/6/2016	11:34:00 AM	54.7	58.8	53.2									38.9	51.2	35.6				
7/6/2016	11:35:00 AM	56.4	70.4	47.7									38.9	47.6	35.6				
7/6/2016	11:36:00 AM	53.4	67.6	46.7									38.5	45.9	35.1				
7/6/2016	11:37:00 AM	50.0	54.2	47.7									39.4	53.5	35.3				
7/6/2016	11:38:00 AM	51.5	56.0	49.3									40.1	53.9	35.4				
7/6/2016	11:39:00 AM	53.5	59.3	49.8									39.2	48.4	35.1				
7/6/2016	11:40:00 AM	53.7	55.7	52.4									38.5	46.5	35.8				
7/6/2016	11:41:00 AM	53.6	55.9	52.5									38.4	48.6	35.3				
7/6/2016	11:42:00 AM	54.1	57.3	52.9									38.0	46.8	35.3				
7/6/2016	11:43:00 AM	55.7	73.6	52.7									38.2	46.9	35.6				
7/6/2016	11:44:00 AM	55.7	60.3	53.2									39.0	50.4	35.4				
7/6/2016	11:45:00 AM	55.5	65.2	52.8									39.0	48.3	35.7				
7/6/2016	11:46:00 AM	60.8	76.6	53.7									38.7	47.0	35.5				
7/6/2016	11:47:00 AM	56.2	60.0	53.3									39.4	53.5	34.8				
7/6/2016	11:48:00 AM	56.0	75.4	52.9									37.7	44.2	35.4				
7/6/2016	11:49:00 AM	54.0	61.0	53.0									38.1	53.3	35.5				
7/6/2016	11:50:00 AM	55.8	60.9	53.1									37.5	41.2	35.4				
7/6/2016	11:51:00 AM	55.2	67.0	53.0									37.5	40.8	35.1				
7/6/2016	11:52:00 AM	54.3	62.5	53.0									39.6	51.2	35.5				
7/6/2016	11:53:00 AM	56.3	63.0	53.5									41.2	53.8	35.4				
7/6/2016	11:54:00 AM	54.4	58.7	53.0									37.4	40.0	35.4				
7/6/2016	11:55:00 AM	54.8	61.4	53.2									38.5	45.6	35.6				
7/6/2016	11:56:00 AM	55.2	61.7	53.2									39.3	53.1	35.7				
7/6/2016	11:57:00 AM	55.3	58.6	53.5									39.5	57.6	35.5				
7/6/2016	11:58:00 AM	55.2	59.0	54.0									37.7	44.7	35.1				
7/6/2016	11:59:00 AM	57.9	67.1	53.4									38.3	53.7	34.9				

Values highlighted in red (between approximately 9:00 p.m. and 9:20 p.m. on 7/4/16) represent noise levels during existing fireworks display events and were used to calculate fireworks noise levels.



Photograph 1. LT-1: Camera facing north



Photograph 2. LT-1: Camera facing east



Photograph 3. LT-1: Camera east of measurement location facing south



Photograph 4. LT-1: Camera facing west



Photograph 5. LT-2: Camera facing north



Photograph 6. LT-2: Camera facing east



Photograph 7. LT-2: Camera facing south



Photograph 8. LT-2: Camera facing west



Photograph 9. LT-3: Camera facing north



Photograph 10. LT-3: Camera facing east



Photograph 11. LT-3: Camera facing south



Photograph 12. LT-3: Camera facing west



Photograph 13. LT-4: Camera facing north



Photograph 14. LT-4: Camera facing east



Photograph 15. LT-4: Camera facing south



Photograph 16. LT-4: Camera facing west



Photograph 17. LT-5: Camera facing north



Photograph 18. LT-5: Camera facing east



Photograph 19. LT-5: Camera facing south



Photograph 20. LT-5: Camera facing west



Photograph 21. LT-6: Camera facing north



Photograph 22. LT-6: Camera facing south



Photograph 23. LT-6: Camera facing west

Fireworks Noise Model Calculations

All noise levels in dBA

Measured Event Noise Levels and Adjusted 1-Hour Leqs

Location	Event Leq	Ambient Leq	Fireworks (Event - Ambient)	Duration	Fireworks 1-Hour Leq
LT1 Shelter Island	71.6	46.4	71.6	19 min	66.6
LT2 B Street Pier	88.5	56.1	88.5	19 min	83.5
LT3 Coronado Golf Course	76.2	49.9	76.2	20 min	71.4
LT4 National City*	63.6	55.7	62.8	19 min	57.8
LT5 Chula Vista	51.7	44.3	50.8	19 min	45.8
LT6 Imperial Beach	87	66.1	87.0	18 min	81.7

* Measured noise levels at LT4 attributable to National City 4th of July fireworks at Kimball Park

Source and Receiver Coordinates (metric from USGS National Map)

Location	Meters		Feet	
	x	y	x	y
Shelter Island Barge	479378	3619529	1572763	11875094
Harbor Island Barge	481258	3620450	1578930	11878118
North Embarcadero Barge	483132	3619705	1585077	11875673
Central Embarcadero Barge	483994	3618624	1587906	11872127
Glorietta Bay Barge	484227	3615485	1588672	11861828
Imperial Beach Pier	487337	3604688	1598874	11826403
LT1 Shelter Island	478028	3619015	1568332	11873410
LT2 B Street Pier	483450	3620009	1586124	11876670
LT3 Coronado Golf Course	484419	3616208	1589303	11864200
LT4 National City	490855	3613203	1610417	11854340
LT5 Chula Vista	490451	3608475	1609093	11838829
LT6 Imperial Beach	487581	3604592	1599676	11826090

Distances for Source-Receiver Pairs, feet

Receivers	Shelter Island Barge	Harbor Island Barge	North Embarcadero Barge	Central Embarcadero Barge	Glorietta Bay Barge	Imperial Beach Pier
LT1 Shelter Island	4740	11596	16897	19615	23405	56058
LT2 B Street Pier	13453	7338	1445	4879	15058	51859
LT3 Coronado Golf Course	19805	17357	12226	8049	2455	38991
LT4 National City	42994	39456	33123	28690	22998	30228
LT5 Chula Vista	51332	49531	43979	39467	30757	16088
LT6 Imperial Beach	55908	56011	51687	47519	37394	860

Estimated Noise Source/Reference Levels, Leq Over Event Duration

(For best fit of measured Leq during Big Bay Boom event)

	Shelter Island Barge	Harbor Island Barge	North Embarcadero Barge	Central Embarcadero Barge	Glorietta Bay Barge	Imperial Beach Pier
Estimated sound power	148.5	148.5	148.5	148.5	143.3	144.1
Corresponding sound pressure at 50 feet	116.9	116.9	116.9	116.9	111.7	112.5

Estimated Source Contributions and Comparison to Actual Measured Leq during Event

Receivers	Shelter Island Barge	Harbor Island Barge	North Embarcadero Barge	Central Embarcadero Barge	Glorietta Bay Barge	Imperial Beach Pier	Calculated Overall Leq	Measured Leq during Event	Delta
LT1 Shelter Island	73.3	59.7	51.9	48.2	38.3	3.6	73.5	71.6	1.9
LT2 B Street Pier	56.8	67.3	86.4	72.9	49.2	7.9	86.6	88.5	-1.9
LT3 Coronado Golf Course	48.0	51.2	58.7	65.9	75.7	21.3	76.2	76.2	0.0
LT4 National City	21.5	25.2	32.2	37.2	38.8	31.0	42.1	62.8	-20.7
LT5 Chula Vista	12.8	14.7	20.4	25.2	29.6	48.6	48.7	50.8	-2.1
LT6 Imperial Beach	8.2	8.1	12.5	16.7	22.3	87.0	87.0	87.0	0.0
Duration of Event, Min	19	19	19	19	20	18			

Note: National City noise measurement (LT4) includes non-Port fireworks noise from Kimball Park display

Measured/Estimated 1-Hour Leq due to Project Fireworks Displays

Receivers	Leq during Event	Duration, minutes	Calculated 1-Hour Leq
LT1 Shelter Island	71.6	19	66.6
LT2 B Street Pier	88.5	19	83.5
LT3 Coronado Golf Course	76.2	20	71.4
LT4 National City*	42.1	19	37.1
LT5 Chula Vista	48.7	19	43.7
LT6 Imperial Beach	87.0	18	81.7

*Estimated based on modeled noise levels rather than contaminated measurement data

Adjusted Reference Sound Pressure (Noise Level) at 50 feet for 1-Hour Leq Based on Event Duration

	Shelter Island Barge	Harbor Island Barge	North Embarcadero Barge	Central Embarcadero Barge	Glorietta Bay Barge	Imperial Beach Pier
1-Hour Leq at 50'	111.9	111.9	111.9	111.9	106.9	107.2

Noise contours from individual sources.

1-Hour Leq	Shelter Island Barge	Harbor Island Barge	North Embarcadero Barge	Central Embarcadero Barge	Glorietta Bay Barge	Imperial Beach Pier
80	1,665	1,665	1,665	1,660	1,000	1,040
75	2,680	2,680	2,680	2,680	1,670	1,730
70	4,130	4,130	4,130	4,130	2,680	2,770
65	6,070	6,070	6,070	6,070	4,140	4,250
60	8,500	8,500	8,500	8,500	6,080	6,230
55	11,390	11,390	11,390	11,390	8,510	8,700
50	14,670	14,670	14,670	14,670	11,400	11,610
45	18,280	18,280	18,280	18,280	14,680	14,925

* Contour distances may vary by +/- 5 feet due to iterative calculation process

Fireworks Noise Model Calculations

Estimated Sound Pressure (Noise Level) at 50 feet for 1-Hour Leq, Proposed New Events

	Chula Vista, 4th of July	National City, 4th of July	Chula Vista, other
1-Hour Leq at 50'	107.2	107.2	101.2

* 4th of July events assumed to be the same as measured Imperial Beach display
Other events adjusted by -6 dB to account for 1/4 of the duration

Noise contours from 4 proposed shows

1-Hour Leq	Chula Vista, 4th of July	National City, 4th of July	Chula Vista, other
80	1,035	1,035	545
75	1,725	1,730	930
70	2,770	2,770	1,560
65	4,250	4,250	2,530
60	6,235	6,235	3,915
55	8,700	8,700	5,795
50	11,610	11,610	8,165
45	14,925	14,925	11,000

* Contour distances may vary by +/- 5 feet due to iterative calculation process

Note: Model assumes hard site ground conditions and an excess attenuation of 2.8 dB per kilometer due to air absorption (source: Handbook of Acoustical Measurements & Noise Control, 3rd Edition, Harris, Page 3.3; based on effect at 500 Hz for temperature of 68°F and relative humidity of 70%.)

Appendix I
Public Services Questionnaires

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Questions Related to Public Services (July 7, 2016)

City of Chula Vista Fire Department Henry Muns, Deputy Fire Chief (619) 409-5836 Response provided August 11, 2016

1. Primary response unit for areas surrounding fireworks barges? Equipment per response unit?
 - E51 (Type 1 Engine)
 - T51 (Type 1 Truck)
 - B51 (Incident Commander)
 - E55 (Type 1 Engine)
 - E52 (Type 1 Engine)

Equipment: <http://www.firescope.org/ics-guides-and-terms/ICS%20020-1.pdf>

2. Current response times from primary station to areas surrounding fireworks barges? Estimated response times from other stations to areas surrounding fireworks barges? What is used to calculate these times?
 - FS 1 (5 min)
 - FS2 (7 min)
 - FS5 (8 min)
 - Historical incident response times
3. What standard is used to determine adequate response times? What is the “best practice” initial response time? Actual number of staff deployed and response time?
 - City of Chula Vista response time metric is 7 min 80% of all calls for the first unit.
 - Best practice is NFPA 1710
 - First unit(EMS)= 6 min 90%
 - First unit(Fire)= 6 min 90%
 - First 14 firefighters (Effective Firefighting Force)= 10 min 90%
4. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?
 - Events in Chula Vista such as the 4th of July have not overwhelmed our current service delivery network and therefore we have no policy to increase our capability.

From: Webmaster
Sent: Thursday, July 07, 2016 5:38 PM
To: Community_Relations
Subject: City of Chula Vista Police Contact Us - Web Notification

A new entry to a form/survey has been submitted.

Form Name: Police Department
Date & Time: 07/07/2016 5:37 PM
Response #: 869
Submitter ID: 15642
IP address: 199.223.21.100
Time to complete: 2 min. , 47 sec.

Survey Details

Page 1

1

City of Chula Vista Police Department

1. Current staff numbers? **221 sworn and 84 civilian.** Work shifts? **Hybrid 3 10-hour shifts Mon-Thur and 3 12.5 hour shifts Fri-Sun.** Number of officers deployed per shift? **10 to 19.** What standard is used to determine this? **Calls for police services**
2. What is the City-wide officer to resident ratio goal? **There is no record responsive to this request** How many sworn officers are there currently? **227 budgeted.**
3. How does the Department provide services during 4th of July fireworks shows? **If needed, additional City services may be allocated through the City's Special Events planning and permitting processes.** What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)? **There are no records responsive to these requests.**
4. Please list standard and actual response times in minutes per call types E, and 1 through 4. **We only have a threshold standard for Priority 1 and Priority 2 calls for service.**
 - **Priority 1 Threshold is 6 minutes. The average response time for our latest GMOC reporting (7/1/2014-6/30/15) is 6 minutes 49 seconds.**
 - **Priority 2 Threshold is 12 minutes. The average response time for our latest GMOC reporting (7/1/2014-6/30/15) is 13 minutes and 50 seconds.**

Thank you,
City of Chula Vista

This is an automated message generated by the Vision Content Management System™. Please do not reply directly to this email.

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Questions Related to Public Services (July 7, 2016)

Tom Santos, Fire Safety Inspector II

Imperial Beach Fire-Rescue Department

865 Imperial Beach Blvd.

Imperial Beach, CA 91932

Phone: (619) 628-1392 - Fax: (619) 628-1489

tsantos@imperialbeachca.gov

RESPONSE RECEIVED AUGUST 10th

City of Imperial Beach Fire Department

1. Primary response unit for areas surrounding fireworks barges? Equipment per response unit?

There are no fireworks barges associated with the Imperial Beach display. The display is fired from the Imperial Beach fishing pier where (1) type 1 fire engine (E239) is assigned for the event. The engine is staffed with (1) Fire Captain, (1) Fire Engineer, and (2) Firefighters. The fire engine is connected to the pier standpipe which has fire department connections along its 1,500 foot length. Additionally (1) ALS ambulance is assigned to the event as well.

2. Current response times from primary station to areas surrounding fireworks barges? Estimated response times from other stations to areas surrounding fireworks barges? What is used to calculate these times?

Response times do not apply; the engine is on scene and assigned to the display.

3. What standard is used to determine adequate response times? What is the "best practice" initial response time? Actual number of staff deployed and response time?

Response times do not apply; the engine is staged and dedicated to the display. Staff assigned is (1) Fire Captain (1) Fire Engineer, and (2) Firefighters.

4. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?

Incidents associated with the fireworks display will be responded to by the E-239 pier group and incidents in the remainder of the city are responded to by E-39 from the fire station.

Primary arterial intersections are staffed by San Diego County Sheriff deputies and associated staff which conduct manual traffic control beginning at 8pm and continuing approximately 1 hour after the display end. This traffic control staff meters traffic in manner maintaining effective response.

Yes staff has a response plan for this and other high congestion special events. Additionally all Imperial Beach Fire Engineers are trained and accredited through the State of California to respond in a variety of conditions including heavy traffic.

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Questions Related to Public Services (July 7, 2016)

Phone call w Robert Hernandez. Battalion Chief Fire Marshall and Fire Investigator of National City on 7/12/2016

City of National City Fire Department

1. Primary response unit for areas surrounding fireworks barges? Equipment per response unit?

IF fireworks were to happen.

Primary response = truck 34 and engine 34, housed at station 34. 343 east 16th street (waterfront section). Battalion 57 is also housed at Station 34.

If something happens, immediately goes to 1st alarm, truck 34, engine 54, engine 34, paramedic, 343 16th and additional **engine 31** from east side of time. add additional fire engine and battalion chief. use mutual aid contract to provide services

Most departments are broken into 1 fire engine, 1 fire truck. smaller departments reach out to others for hazards (San Diego), paramedics

fire engine = smaller engines, 99% of those on street, respond to most situations in city (fire fighting, rescue for vehicles, medical equipment). most of these have available water aboard engine and pump that can attach to hoses (always)

fire truck = bigger longer trucks with ladders on top. main responsibility is rescue and roof company operations. this is heavier equipment for multiple car extractions, etc. Roof = technical utilities, forced entries for larger buildings

quint – this fire truck has water and hose onboard all the time. used often in national city bc large majority of calls, sandwiched between SD and chula vista, so going into those areas daily. east = paradise hills, also goes into those territories. more than 80% of runs are medically related, so that means that engines are out

2. Current response times from primary station to areas surrounding fireworks barges? Estimated response times from other stations to areas surrounding fireworks barges? What is used to calculate these times?

National avg, national fire protection association nfpa = goal of ~5 mins (DON'T QUOTE)

response times 6 mins from time of 911 to time on scene, 90% of time. 1 min for dispatch. another minute for firefighters to go from rest to out the door, putting on gear. 4 minutes given to response times from firehouse to emergencies.

headquarters would respond to barges. another on 24th and Euclid/ Division, covers east side of town, responsible for Marina located emergencies. those that require all units, same response goal of 6 mins

National City has been installing middle crossing pedestrian safe havens. 2 choices if stuck, 1) turn off lights, cant meet goal or 2) can't turnaround

3. What standard is used to determine adequate response times? What is the "best practice" initial response time? Actual number of staff deployed and response time?

looks at national avg, everyone strives to do that. best practice = always looking at numbers, see if there are impacts or improvements to respond to. SD County fire chiefs meet monthly. Every month, "in service training" covers everything, throughout firefighters career.

Actual number of staff = engine has 4 seats. most departments only bring 3 firefighters. only apparatus with mandatory staffing are the trucks with

typical medical emergency = 3 firefighters.

large event = radio dispatch for additional resources, another engine with 3 firefighters to assist. if trucks are out, will use truck, which has mandatory staffing of 4

station 34, headquarters, has 4 firefighters on truck, 3 firefighters on engine, and 1 battalion chief

station 31 = 3 firefighters on engine

total of 11 firefighters on staff

4. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?

Yes on all of above.

1) any other special events. City has temporary use permit (TUP). org is required to fill out package that gets sent out to all departments in city. ex:// cooking under a canopy or pop up tent, will have criteria to meet. all need to be reviewed by rob Hernandez (pers. contact), inspection before and after the event. details noted include roadways that are closed. department plans through these TUPs.

if delayed by traffic, turn off lights, let dispatch know that delayed, wait for traffic to open up, turn on lights and resume when possible.

trainings are planned ahead 1 month always, looks at alternative routes. main objective is to get there quickly. if you cant get there in a straight line, figure out other ways. plan accordingly.

Robert Hernandez. Battallion Chief Fire Marshall and Fire Investigator of National City.

Wind direction goes south east, nothing goes over water. 1.5 from waterfront fire barges.

Kimball Park 1200 block of D ave, center city, nowhere near water Fireworks

Used to receive fireworks on barges and offloaded in National City and out of city to surrounding cities. This hasn't happened in 8-10 years. Has permit but has not used in large number of year. Fireworks come in on roadways PyrosSpectacular is vendor who transports them

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Questions Related to Public Services (July 7, 2016)

Karl Becker, Fire Captain of SD Fire Rescue
619-533-4300 and KBecker@sandiego.gov
Phone conversation on August 5, 2016

City of San Diego Fire-Rescue Department

1. Primary response unit for areas surrounding fireworks barges? Staffing and equipment per response unit?
Depends on the type of incident. Fire Station 7 would respond to incidents near the most southern barge for the Big Bay Boom events. Fire Station 1 would respond to incidents near the middle BBB barges near Harbor Island. Fire Station 22 would respond to incidents near the BBB barge closest to Shelter Island.
2. Current response times from primary response unit to areas surrounding fireworks barges? Estimated response times from other stations to areas surrounding fireworks barges? What is used to calculate these times?

[KARL TO PROVIDE]:

From 8/17 email:

I just talked to the our communications people and they said 3-10 minutes would be the best estimate without having to generate computer simulations. I can probably get slightly more accurate numbers but the issue is that the barges are in the middle of the bay and the response would have to come from Harbor Police on a fire boat.

Let me know if you need more info

3. What standard is used to determine adequate response times? What is the “best practice” initial response time? Actual number of staff deployed and response time?
[KARL TO PROVIDE]
4. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?

In addition to having oversight by the State Fire Marshall, the Department stations 1 squad in the Embarcadero area and an emergency response unit at Shelter Island and Harbor Island. The Department has an Emergency Response Plan, which gets updated using information from past events.

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Questions Related to Public Services (July 7, 2016)

Lt. Tom Underwood

SDPD Operational Support/CIMU

Tunderwood@pd.sandiego.gov

(619) 531-2172

Email response received 8/12/2016

City of San Diego Police Department

1. Current staff numbers? Work shifts? Number of officers deployed per shift? What standard is used to determine this?

The San Diego Sheriff Department is responsible for Imperial Beach and the San Diego Harbor Patrol is responsible for the San Diego Bay.

2. What is the City-wide officer to resident ratio goal? How many sworn officers are there currently?

The San Diego Police Department has 1.36 officers per 1000 residents. The goal of the San Diego Police Department is to have 1.48 police officers per 1000 residents.

As of August 8, 2016, the San Diego Police Department has 1783 sworn officers.

3. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?

The San Diego Sheriff Department is responsible for Imperial Beach and the San Diego Harbor Patrol is responsible for the San Diego Bay.

For the City of San Diego, the San Diego Police Department develops operational plans to effectively staff the July 4th weekend and events for any affected commands. Assigned officers are strategically deployed in the affected areas to navigate heavy traffic. A supervisor will be assigned to oversee utilization of police personnel and resources.

4. Please complete the table below:

San Diego Police Department Response Time Standards and Actual Response Times

Call Type	Description	Standard (minutes)	Actual (minutes)
Priority Emergency (E)	Imminent threat to life	7	6.9
Priority 1	Serious crimes in progress	14	13.2
Priority 2	Less serious, non-life-threatening crimes	27	30.6
Priority 3	Minor crimes/non-urgent requests	70	76.8
Priority 4	Minor requests for police service	70	83.3

Actual (minutes) for fiscal year 2015

Target (minutes) per:

<https://www.sandiego.gov/sites/default/files/legacy/fm/.../v2police.pdf>

From: Blood, Mike
Sent: Thursday, August 11, 2016 11:48 AM
To: Chen, Liane
Cc: King, Blair; Johanna Canlas
Subject: RE: Public Service Qs for SD Bay and Imperial Beach Oceanfront Fireworks Display Events Project

EIR – Barge based fireworks display response in Coronado.

The project manager for this Fireworks EIR is Mayra Medel at the Port of San Diego. Her email is mmedel@portofsandiego.org.

Predicted Response Units and Times:

All units coming from quarters to Glorietta Boat launch ramp which is located just south of 1845 Strandway.

E-36	3:47	3 personnel
T-37	7:31	4 personnel
B-53	3:17	1 personnel
SND E-7	6:59	4 personnel
SND E-4	9:51	4 personnel
SND E-11	9:05	4 personnel
SND T-11	9:25	4 personnel
SND B1	9:56	1 personnel
HPD Fire Boat	<10	3 personnel

- Total of 28 personnel on scene under 10 minutes with the first engine company on scene under 4 minutes.
- Standard – provide EMS with a maximum response time of eight minutes, 90% of the time. This performance standard

would be met and comply with San Diego County Department of Emergency Medical Services.

- Standard – Best Practices guideline is NFPA 1710. The first engine company is predicted to be on scene in 4 minutes or less (the standard would be met), however, the entire first alarm would not be on scene in 8 minutes or less and in this case the NFPA 1710 guideline would not be met. We utilize a robust Automatic Aid System and the bulk of this response would be coming from surrounding agencies. Additional resources may be requested on an as needed basis by the Incident Commander.
- These response times do not account for potential delays in traffic that may be a factor on the 4th of July.

4th of July

The Fire Department overstaffs 1 additional ALS ambulance, 1 boat with two BLS lifeguards in Glorietta Bay, and 1 additional Battalion Chief in the Emergency Operations Center. These are additional units that exceed our daily staffing of 1 engine, 1 truck, 1 Battalion Chief, and 1 ambulance.

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Questions Related to Public Services (July 7, 2016)

Mary Ann Castellano
Support Services Supervisor
Coronado Police Department
700 Orange Avenue
Coronado, Ca. 92118
619-522-7363
619-568-1816 fax

Email response received 8/15/2016

City of Coronado Police Department

1. Current staff numbers? Work shifts? Number of officers deployed per shift? What standard is used to determine this?
 - a) There are currently a total of 58 sworn and non-sworn personnel.
 - b) Sworn personnel in Field Services work two shifts – 6:00 a.m. to 6:15 p.m. and 6:00 p.m. to 6:15 a.m.
 - c) The number of Patrol Officers deployed per shift is required to be a minimum of 4 with a maximum of 6 when fully staffed. The day shift will also have additional Traffic Officers on duty ranging from 2 to 5 officers per shift.
 - d) We staff police officers, reserve officers, outside agencies, volunteers, explorers, and contracted security. The work is then divided to cover the 24 hour shift.

2. What is the City-wide officer to resident ratio goal? How many sworn officers are there currently?
 - a) We do not have a standard for that at this time.
 - b) We have 40 sworn officers at this time.

3. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?
 - a) The EOC (Emergency Operations Center) is in operation, Patrol and Dispatch staffing levels are increased to handle calls for service and outside local law enforcement personnel provide additional support to help monitor higher traffic and pedestrian volumes.

- b) The Police Department strategically places personnel throughout the City to be able to respond timely to all calls for service.
- c) Yes, the Department does have a plan in place to respond to emergencies during special events.

4. Please complete the table below:

Coronado Police Department Response Time Standards and Actual Response Times

Call Type	Description	Standard (minutes)	Actual (minutes)
Priority Emergency (E)	Imminent threat to life	5 min	2 ½ min
Priority 1	Serious crimes in progress	5 min	2 ½ min
Priority 2	Less serious, non-life-threatening crimes	ASAP	5 min
Priority 3	Minor crimes/non-urgent requests	ASAP	7 1/2 min
Priority 4	Minor requests for police service	ASAP	7 min

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Questions Related to Public Services (July 7, 2016)

Donald Brick | Harbor Police Sergeant

PORT OF SAN DIEGO

3380 N. Harbor Drive • San Diego, CA 92101

O: 619.686.6376 F: 619.758.1617

Email response received 8/11/2016

Harbor Police Department

1. Can you describe the role of marine firefighters?

The role of the marine firefighters during the 4th of July event is to provide fire safety for the 4 fireworks barges in SD bay. They are generally on scene 15 minutes prior to and 20-30 minutes after the event. Duties would include firefighting, first aid, and security perimeter for the event.

2. Please describe shifts, officers deployed, and equipment used for: *Shifts for the big bay boom are all 12.5 hour days. Dayshift is from 0500-1730. Eves is 1200-0030, Nights is from 1700-0530. The majority of our staffing is made up of evening shift and supplemented by the night shift. Dayshift is basically normal staffing.*
 - a. Vehicle Patrol: *8 vehicles with 2 officers each, 2 vehicles with one officer*
 - b. Vessel Patrol: *4 fire boats, 2 fast boats*
 - c. Bicycle Team: *4 bike units*
 - d. Dive Team: *11 units spread throughout the event*
 - e. Investigations Unit: *The full investigative teams (5) were working the event.*
 - f. Reserve Senior Volunteer Patrol Program (RSVP) *0*
 - g. Any other units: *FBI USCG and SDSO were also on scene at the HPD command post.*

3. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?

The department increases staffing to 43 personnel in patrol on Eves vs normal staffing of 8 in patrol.

Effective response times are achieved by the use of more units on tidelands including bicycle units and vessel units. We also have units assigned to the 3 major patrol areas.

HPD has traffic plans for before the event, during the event, and after the event. HPD also has an Emergency Operations Guide for responses during the event.

4. Please complete the table below:

Harbor Police Department Response Time Standards and Actual Response Times

Call Type	Location	Standard (minutes)	Actual (minutes)
First Priority	Vehicle		
	Vessel		
Second Priority	Vehicle		
	Vessel		

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Questions Related to Public Services (July 7, 2016)

City of National City Police Department

1. Current staff numbers? Work shifts? Number of officers deployed per shift? What standard is used to determine this?
 - There are a total of 135 employees at the Police Department
 - 6 shifts
 - Staffing is dependent on the beat, time of day and crime trends in the City.

2. What is the City-wide officer to resident ratio goal? How many sworn officers are there currently?
 - There is no city-wide ratio goal.
 - There are currently 86 sworn officers.

3. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Department have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?
 - The 4th of July fireworks funding is by services organizations and the City's General Fund.
 - Deployment for the 4th of July events (fireworks) does not impact the Patrol Division due to overtime funding by the service organizations and the City's General Fund providing staffing for the event(s).
 - The police department has an "Operational Plan" and a "Traffic Plan" for the event (due to the public's and officer safety reasons, these plans are not for public dissemination)

4. Please complete the table below: National City Police Department Response Time Standards and Actual Response Times

Call Type	Description	Standard (minutes)	Actual (minutes)
Priority Emergency (E)	Imminent threat to life		00:03:36
Priority 1	Serious crimes in progress		00:09:53
Priority 2	Less serious, non-life-threatening crimes		00:20:52
Priority 3	Minor crimes/non-urgent requests		00:05:39
Priority 4	Minor requests for police service	<i>Self-Initiated</i>	00:00:07

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Questions Related to Public Services (July 7, 2016)

Email response received 8/11/2016

Lt. Herbert Taft
Imperial Beach Substation
845 Imperial Beach Blvd
Imperial Beach, CA 91932

San Diego County Sheriff's Department, Imperial Beach Division

1. Current staff numbers? Work shifts? Number of officers deployed per shift? What standard is used to determine this? **We have two shifts per 24 hour period, day and night shift. On any day/night we have 2-5 deputies working depending on training, scheduled days off, sickness, court etc. Standards used is based on needs of the individual contract city. Those needs can vary depending on whether special events are occurring.**

2. What is the City-wide officer to resident ratio goal? How many sworn officers are there currently? **Approximately 40 sworn are assigned to the Imperial Beach command. Imperial Beach has a population of approximately 26,000 residents and cover about a 4 sq mile area.**

3. How does the Department provide services during 4th of July fireworks shows? What measures are enforced in order to ensure effective response times? Does the Division have a plan in place to respond to emergencies during special events (for example, guidelines for navigating heavy traffic)?
 - A. **Needs of city, current budget, expected visitors, traffic expectations, prior 4th events**
 - B. **Deputies are assigned to locations in the city which ensures effective response times**
 - C. **Yes through tactical placement of resources which minimize travel time**

4. Please complete the table below:

San Diego County Sheriff's Department, Imperial Beach Division Response Time Standards and Actual Response Times

Call Type	Description	Standard (minutes)	Actual (minutes)
Priority Emergency (E)	Imminent threat to life		
Priority 1	Serious crimes in progress		
Priority 2	Less serious, non-life-threatening crimes		
Priority 3	Minor crimes/non-urgent requests		
Priority 4	Minor requests for police service		

The city is small so response times in general for non-emergency can be 5 minutes or less. Emergent calls with code 3 response under 2 minutes. During special events deputies are placed throughout the city so there is little to no impact from traffic conditions.

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events

Questions Related to Public Services (July 7, 2016)

LT Robert Cole
Waterways Management Division Chief
Sector San Diego
U.S. Coast Guard
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Email response sent on 8/11/2016

United States Coast Guard Sector San Diego

1. What is your role and coordination with other agencies that provide emergency services and public protection during special events (such as the Big Bay Boom)?
Coast Guard Sector San Diego facilitates the events that occur on the federal waterways by receiving, analyzing, and reviewing the Applications for Marine Event for each event. For events such as the Big Bay Boom, we enforce regulatory Safety Zone's around each barge (to ensure the public remains safe and clear of the area) as well as enforce (as appropriate) the Navigation Rules (vessel transits, vessel lighting, vessel anchoring, etc.). For the Big Bay Boom, we closely coordinated with the SD Harbor Police on the posture and location of personnel and assets. Please note that this is in addition to our normal requirements and duties for operations related to safety and security within our area of responsibility.
2. Please describe your unit's trained capabilities.
This is wide ranging, and depends on job assignments and specific ratings (career field) for certain personnel. Trained capabilities for this specific event could include (in laymen's terms): Vessel operator, vessel crew, search and rescue, law enforcement, waterways management, patrol command, communications, and marine safety.
3. Number of staff? Equipment used? Typical assigned shifts?
Cannot provide specifics due to operational security. Broadly, on the evening of the Big Bay Boom, the Coast Guard provided a "normal duty watch" that consists of a command center, search and rescue and law enforcement vessels, and search and rescue aircraft. Additionally, an added patrol force for this event provided specific event command and control, and multiple active duty and Auxiliary vessel assets.
4. Standards for response times? Actual response times?
Cannot provide specifics due to operational security. However, as stated in #3, the Coast Guard provided a "normal duty watch" that consists of a command center, search and rescue and law enforcement vessels, and search and rescue aircraft. Additionally, an added patrol force for this event provided specific event command and control, and multiple active duty and Auxiliary vessel assets.

Appendix J
Transportation Assessment

Transportation Assessment

San Diego Bay and Imperial Beach Oceanfront Fireworks Display Event EIR

Draft Technical Report

Prepared for:



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March 2, 2017

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1.0 Introduction

The purpose of this study is to identify changes in travel and parking patterns associated with a series of new firework display events that will take place in and around the San Diego Bay (Proposed Project).

1.1 Project Background

The District Code section that would be established by the proposed ordinance would govern existing and proposed new fireworks display events requiring a discretionary action by the District or operated by the District’s tenants. A number of existing fireworks display events occur year-round in and around San Diego Bay and the Pacific Ocean near Imperial Beach. These existing fireworks display events would be subject to the District Code section established by the proposed ordinance.

In addition to the existing fireworks display events, the District Code section would govern four new fireworks display events that are anticipated to require a future discretionary action by the District, including three displays along the Chula Vista Bayfront, allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July display along the National City Bayfront. The three proposed fireworks display events along the Chula Vista Bayfront include one Fourth of July display and two non-Fourth of July displays. It is anticipated that the District would consider annually whether or not to provide event sponsorship and/or issue a Special Event Permit, Right-of-Entry Permit, Tideland Use and Occupancy Permit, Coastal Development Permit, Coastal Act Categorical Determination of Exclusion, or other similar approval for these fireworks display events. These fireworks display events are anticipated to last approximately 3 to 20 minutes, and the fireworks are anticipated to be launched from piers or barges. These proposed new fireworks display events would also be subject to the District Code section established by the proposed ordinance. The proposed new fireworks display events associated with the proposed project are identified in **Table 1-1**, below.

Table 1-1. Proposed New Fireworks Display Events Requiring a Future Discretionary Action by the District

Time of Year	Approximate Number of Fireworks Display Events	Location(s) of Fireworks Display Event	Approximate Duration of Each Fireworks Display Event	Approximate Shell Size
January–March	1	Chula Vista ¹	3–10 minutes	2–8 inches
April–June	—	—	—	—
July–September	2	Chula Vista ² National City ²	15–20 minutes	3–8 inches
October–December	1	Chula Vista ¹	3–10 minutes	2–8 inches
TOTAL	4⁽³⁾			

Source: ICF, January 2017

Notes:

¹Non-Fourth of July display (smaller display)

²Fourth of July display

³Total includes three fireworks display events along the Chula Vista Bayfront, as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan.

Fourth of July Fireworks Display Events

The following Fourth of July fireworks display events currently require a discretionary action or are anticipated to require future consideration of a discretionary action by the District.

Big Bay Boom

The Big Bay Boom is a large, multi-berth outdoor fireworks display event that takes place in North San Diego Bay on the Fourth of July. The District provides event sponsorship and financial assistance for this free event, which was first established in 2001. Given the natural amphitheater provided by the various neighborhoods, parks, and commercial centers surrounding San Diego Bay, including Point Loma, Shelter Island, Harbor Island, Liberty Station, Little Italy, North Embarcadero, Seaport Village, South Embarcadero, and the Coronado Ferry Landing, the Big Bay Boom is viewed by approximately 300,000 to 500,000 people annually. In addition, other private viewing locations are available at the USS Midway Museum, Hornblower Yachts, Flagship Cruises and Events, and San Diego Maritime Museum.

This event requires the strategic placement of four barges (moved by tug boats) around San Diego Bay near Seaport Village, the Embarcadero, Harbor Island, and Shelter Island and does not require construction of any on-land support facilities. During the event, the Coast Guard, City Fire Department, Harbor Police, and special patrol vessels provide safety on the water, while the Harbor Police and San Diego Police Department provide traffic coordination and public safety on land. The fireworks display lasts approximately 18 minutes, after which the barges are removed and, once the Fire Marshal has determined it is safe to do so, cleanup is conducted.

Fourth of July Imperial Beach Fireworks Show

The Fourth of July Imperial Beach Fireworks show is a small, single-location outdoor fireworks display event that takes place within the District's Coastal Development Permit jurisdiction in Imperial Beach on the Fourth of July. The District provides event sponsorship and financial assistance for this free event. Primary viewing locations for this event are from Portwood Pier Plaza, Dunes Park, and along the beach from Palm Avenue to Imperial Beach Boulevard.

For this event, fireworks are launched over the Pacific Ocean in Imperial Beach from the Imperial Beach Pier (Pier). During the event, the City of Imperial Beach and San Diego County Sheriff's Department provide traffic coordination and public safety on land. In addition, U.S. Fish and Wildlife Service Safety Officers voluntarily provide patrol and enforcement of a few sensitive habitat areas to prevent trespass. Finally, spectator management in the form of street-end barricades and signage is conducted along 3rd and 5th Streets at the intersection of Imperial Beach Boulevard. Signage prohibiting public access into the southern entry point of the Navy's Silver Strand Training Complex South is also posted by Imperial Beach Lifeguard staff. The fireworks display lasts approximately 18 minutes. After completion of the display event, and once the Fire Marshal has determined it is safe to do so, cleanup is conducted.

Fireworks Show Over Glorietta Bay

The Fireworks Show Over Glorietta Bay is a waterborne fireworks display event that takes place in the Glorietta Bay inlet of San Diego Bay on July 4 of each year. The show is organized and produced by Coronado 4th of July, a non-profit corporation established in 1993.

An estimated 50,000 people directly view the Fireworks Show Over Glorietta Bay from the expansive walkway that extends along the western edge of the bay from Glorietta Bay Marina to Glorietta Bay Park; from Glorietta Bay Park at the southwestern corner of Glorietta Bay; from the Naval Amphibious Base to the south of Glorietta Bay; from Coronado Municipal Golf Course on the northern side of Glorietta Bay; from the high-rise condominiums at the Coronado Shores complex immediately to the west of Glorietta Bay; and from well over 200 vessels that are either moored at Glorietta Bay Marina or visit and anchor there for the fireworks show. The show can also be seen from a distance on San Diego Bay and the considerable viewing area that it offers, but because the show is concurrent to the Big Bay Boom on San Diego Bay, people along the bay—including residents and visitors along the San Diego Bayfront on the Coronado side of the bay—have a much better view of the Big Bay Boom, and the crowds to watch the Big Bay Boom from the Coronado side of San Diego Bay are considerable.

Fireworks Over Glorietta Bay entails the placement of a single barge at the southeastern corner of Glorietta Bay. The barge is moved into its location by a tugboat. The preparation and placement of the barge do not require construction of any on-land support facilities. During the event, the Coast Guard, Harbor Police, and special patrol vessels provide safety on the water, while the Coronado Police Department provides traffic coordination and public safety on land. The fireworks display lasts approximately 19 minutes, after which the barge is removed cleanup is conducted.

Other *Fireworks* Display Events (Other Bay and Oceanfront Fireworks Displays)

A number of other fireworks display events that require a discretionary action by the District occur in and around San Diego Bay throughout the year, including select Summer Pops concerts and private events sponsored by other organizations, such as the Our Lady of Rosary Church annual procession. The Summer Pops is a concert series sponsored by the San Diego Symphony. These concerts are held on most weekends from late June through August; however, not every concert is accompanied by a fireworks show. When the concerts do include a fireworks show, the pyrotechnics are launched from a barge located off Embarcadero Marina Park in an area known as Embarcadero South. Each of these fireworks displays lasts approximately 5 minutes, with one show lasting approximately 10 minutes. The Our Lady of Rosary Church annual procession is a private event sponsored by Our Lady of Rosary Church that involves the launching of fireworks from the Grape Street Pier while a procession marches down Harbor Drive. Finally, other fireworks display events anticipated to require future consideration of a discretionary action by the District include the three fireworks display events along the Chula Vista Bayfront allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and potentially any shows that would occur along the National City Bayfront. These fireworks display events are anticipate to last approximately 3 to 20 minutes, and the pyrotechnics would be launched from piers, barges, and/or landside locations.

1.2 Report Organization

Following this Introduction chapter, this report is organized into the following chapters:

- 2.0 Analysis Methodology – This chapter documents the methodologies used to assess and quantify the anticipated changes in travel patterns and parking demands associated with the proposed new firework events.
- 3.0 Fourth of July Event (Big Bay Boom) – To establish a sampling of the impacts that may be associated with the new Proposed Project events occurring on the Fourth of July, this chapter documents changes in travel patterns and parking demands associated with the current Fourth of July fireworks event at the San Diego Bay. To determine these changes, transportation-related data including daily roadway counts, peak hour intersection counts (auto, bike and pedestrian movements), parking occupancy data, freeway volumes and transit ridership data were collected during the Fourth of July Event (Big Bay Boom) and compared to the exact same transportation data collected during a typical Saturday (non-event).
- 4.0 Imperial Beach - 4th of July Fireworks Display – To establish a sampling of the impacts that may be associated with the new Proposed Project events occurring on the Fourth of July, this chapter documents changes in travel patterns and parking demands associated with the current Imperial Beach - 4th of July Fireworks Display. To determine these changes, transportation-related data including daily roadway counts, peak hour intersection counts (auto, bike and pedestrian movements), parking occupancy data, freeway volumes and transit ridership data were collected during the Fourth of July Fireworks display and compared to the exact same transportation data collected during a typical Saturday (non-event).
- 5.0 Other Event (End of World War II 70th Anniversary) – To establish a sampling of the impacts that may be associated with the new Proposed Project events not occurring on the Fourth of July, this chapter documents changes in travel patterns and parking demands associated with a small scale, single location fireworks event at the San Diego Bay. Similar to the Fourth of July event, transportation-related data including daily roadway counts, peak hour intersection counts (auto, bike and pedestrian movements), parking occupancy data, freeway volumes and transit ridership data were collected during the event and compared to the exact same transportation data collected during a typical Saturday (non-event).
- 6.0 Findings and Conclusions – This chapter provides a summary of the observed travel and parking demand changes associated with the sample display events (Fourth of July and Other fireworks display events). The observed changes in travel and parking patterns were then correlated with the proposed locations for the new events to qualitatively identify potential project related impacts, and corresponding mitigation measures are recommended.

2.0 Methodology

The following chapter outlines the methodologies used to assess and evaluate the changes in the travel patterns and parking demand associated with fireworks display events within and around the San Diego Bay and the Imperial Beach Oceanfront. These changes were then correlated to the potential locations of the new events, to qualitatively identify potential transportation and parking related impacts.

2.1 Example Events

To understand and identify the potential travel and parking related changes associated with new fireworks display events in and around the San Diego Bay, a sampling of data collection efforts were performed during both a Fourth of July Event (the Big Bay Boom, July 4, 2015) and Other Event (The End of WWII 70th Anniversary, August 15, 2015). The travel related data from these events were then compared to a typical Saturday (Non-event, August 22, 2015) to determine changes in travel patterns and parking demands associated with both event types. The magnitude of travel and parking related changes observed during these two sample events was used to understand the changes that may also be expected with the new fireworks display events included in the Proposed Project.

Fourth of July Event – The Big Bay Boom event is an annual Independence Day fireworks display held at San Diego Bay. During the event, fireworks displays are synchronized across four barges in San Diego Bay. The event typically starts at 9:00 PM and lasts for approximately 20 minutes. Thousands of community members gather at several viewing locations around the Bay to view the event each year. For more information on the event, visit <http://www.bigbayboom.com>.

Imperial Beach 4th of July Fireworks Display - Imperial Beach 4th of July Fireworks display, which is not officially part of the Big Bay Boom, was also included in this sample event since it takes place on the same day, and at the same approximate time as, the Big Bay Boom. The Imperial Beach 4th of July Fireworks display takes place along the Imperial Beach Oceanfront, off the end of the Imperial Beach Pier.

Other Event (The End of WWII 70th Anniversary) – The End of World War II 70th Anniversary event was a free event occurring at the Midway Museum on August 15, 2015. The event started at 6:00 PM and concluded at 8:00 PM with a fireworks display from the deck of the Midway Museum. The fireworks display lasted approximately 10 minutes.

Non-event – Travel and parking data were collected during the same times and locations as the Fourth of July and Other firework events, on a day in which no firework event was scheduled, in order to develop a non-event condition for comparison with the two event conditions. Since both study events occurred during the summer and on a Saturday, data for the non-event event was also collected on a Saturday during the summer months, specifically on August 22, 2015.

2.2 Data Collection Effort

The following data were collected near the viewing areas during the two sample events, as well as on August 22nd, to measure the non-event condition.

Daily Roadway Segment Traffic Counts – Daily roadway segment counts were collected on the main roadways accessing the various event viewing areas. The counts reflect daily vehicular traffic patterns and provide a measure of the level of traffic demand under event conditions.

Peak hour Intersection Counts – Pedestrian, bicycle and auto movement counts were conducted two hours before and two hours after the event at key intersection locations providing access to the viewing areas. These counts provide a measure of change in pedestrian and bicycle activities near the viewing areas before and after the event. They also provide another metric for assessing change in vehicular demand under event conditions.

Parking Occupancy Counts – Parking occupancy counts were conducted at parking facilities serving viewing sites before, during, and after the events.

Freeway Counts – Freeway counts were obtained during event and non-event conditions from Caltrans Performance Measurement System (PeMS) database.

Trolley Ticket Sales – MTS does not monitor daily transit ridership by station location. Therefore, to understand changes in transit ridership associated with the event, total system-wide ticket sales were obtained from MTS for previous July 4th holidays, as well as typical weekday and weekend ridership.

2.3 Impacts of the Events

Since it is difficult to assess what transportation related impacts are associated with the actual fireworks display event and what impacts are associated with the Fourth of July holiday, specific travel related impacts cannot be assessed through a conventional traffic impact analysis approach, which would include intersection and roadway level of service analyses. Instead, impacts are qualitatively identified by correlating the magnitude of change in travel and parking demand observed during current events with the locations of the new events. Therefore, the change in transportation related operations associated similar display events from around the bay were measured and used as an analog for the newly proposed events. Recommendations on how to limit travel and parking related impacts of the new event locations are also provided.

3.0 Fourth of July Event (Big Bay Boom)

As noted in the project description, two of the new firework display events included in the Proposed Project will occur on the Fourth of July (Chula Vista Bay Front and National City). To understand the magnitude of change in travel and parking patterns that may occur at these events, samplings of data were collected during a current Big Bay Boom event at known popular viewing locations. It is assumed that the changes observed at the current Big Bay Boom event could then be qualitatively applied to the two Proposed Project events occurring on the Fourth of July to determine potential impacts. This section documents the observed changes in the travel and parking demand and patterns during a sample Big Bay Boom event.

3.1 Event Background

The Big Bay Boom event is an annual Independence Day fireworks display held at the San Diego Bay on the 4th of July. During the event, fireworks displays are synchronized across four barges within the San Diego Bay. The event typically starts at 9:00 PM and lasts for approximately 20 minutes. Thousands of community members gather at several viewing locations near the Bay to view the event each year. The most popular viewing areas along the Bay for the show are typically Shelter Island, Harbor Island, North Embarcadero, Marina District, Seaport Village/South Embarcadero, and the Coronado Ferry Landing. Other areas located near the Bay, such as the Spanish Landing Park, Liberty Station, America's Cup Harbor, and Point Loma, are also areas where people congregate to see the fireworks show. **Figure 3-1** displays the location of the viewing areas near the San Diego Bay.



Broadway Pier. Source: Chen Ryan Associates, July 2015



3.2 Data Collection Effort

Vehicular count data was collected along a total of 24 key roadway segments across the twelve (12) viewing sites. Key study roadway segments were selected based on the level of access they provide to the event. Vehicular roadway counts were conducted during the entire day, midnight to midnight, and provide an hour by hour count of vehicular traffic entering and exiting the viewing sites.

Vehicular, pedestrian and bicycle counts were collected at a total of 20 key study intersections across the twelve (12) viewing sites. The intersections that provide key connections between the viewing sites that were studied and the adjacent communities, as they were anticipated to have the highest vehicular, pedestrian, and bicyclist activity. Intersection counts were conducted between 7 PM and 11 PM to document the vehicular, pedestrian and bicycle activity around the viewing areas before, during and after the event.

In addition to roadway segment and intersection counts, parking occupancy counts were conducted at 17 parking facilities. Parking facilities that either directly serve the viewing areas or are adjacent to (within a quarter of a mile) were counted during the afternoon and evening (at 1 PM, 3 PM, 5 PM and 7 PM) to determine whether and when they reached capacity. Parking occupancy data was also obtained from the parking management companies who operate the paid public parking facilities within the study area to provide a more significant sample size for the data collection effort.

Freeway segment counts were obtained from the Caltrans PeMS data base for the segments of Interstate 8 and Interstate 5, each of which provides regional access to the viewing areas.

Table 3.1 displays the roadway segments, intersections, and parking lots that were anticipated to be the most impacted due to proximity to the viewing locations.

As previously noted in Table 1.2, this project will allow both the Chula Vista Bayfront and Glorietta Bay to be included in the Big Bay Boom Show. Since these locations have not been included in previous shows, no data could be collected to assess the potential transportation related impacts associated with their inclusion. However, since these locations will be associated and advertised with the Big Bay Boom Show, it can be assumed that the transportation related impacts associated with these locations would be similar to the other locations. Therefore, the transportation related impacts identified at the existing viewing sites, and proposed mitigation measures, will be generally applied to these locations as well.

Table 3.1: Big Bay Boom Transportation Data Collection

View Location	Roadway Segment Counts	Bike and Pedestrian Counts	Parking Lots
North Embarcadero	<ul style="list-style-type: none"> Harbor Drive - between Grape Street and Ash Street Hawthorn Street - between Pacific Highway and Kettner Boulevard Grape Street - between Pacific Highway and Kettner Boulevard Pacific Highway - between Cedar Street and Ash Street Ash Street - between Pacific Highway and Kettner Boulevard Broadway - between Pacific Highway and Kettner Boulevard 	<ul style="list-style-type: none"> Hawthorn Street and Harbor Drive Grape Street and Harbor Drive Ash Street and Harbor Drive Broadway and Harbor Drive 	<ul style="list-style-type: none"> Harbor Drive Surface Parking (in front of Solar Turbines) Harbor Drive Surface Parking (in front of County Admin. Center) Navy Pier Parking Lot G Street Pier Parking Lot
South Embarcadero & Seaport Village	<ul style="list-style-type: none"> Harbor Drive - between G Street and Pacific Highway Pacific Highway - between Harbor Drive and Parking Lot Kettner Boulevard - between Harbor Drive and Seaport Village Parking Lot Harbor Drive - between Market Street and Fifth Avenue Harbor Drive - between 5th Avenue and Park Boulevard 	<ul style="list-style-type: none"> Pacific Highway and Harbor Drive Kettner Boulevard and Harbor Drive Market Street and Harbor Drive First Avenue and Harbor Drive Front Avenue and Harbor Drive Fifth Avenue and Harbor Drive Harbor Drive Pedestrian Bridge 	<ul style="list-style-type: none"> Seaport Village Embarcadero Parking Lot South Embarcadero - Surface Parking Lots Convention Center Parking Lot Port Hotel Parking Facility Parcel D Parking Lot
Coronado Ferry Landing	<ul style="list-style-type: none"> Pomona Avenue - between Glorietta Boulevard and 3rd Street 1st Street - between B Avenue and C Avenue 	<ul style="list-style-type: none"> 1st Street and B Avenue 	<ul style="list-style-type: none"> Coronado Ferry Landing Parking Lot Coronado Tidelands Park
Harbor Island	<ul style="list-style-type: none"> Harbor Island Drive - South of Harbor Drive 	<ul style="list-style-type: none"> Harbor Drive and Harbor Island Drive 	<ul style="list-style-type: none"> Harbor Island Parking Lot
Spanish Landing	<ul style="list-style-type: none"> Harbor Drive - between Spanish Landing Parking Lot Driveway and Harbor Island Drive 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Spanish Landing Parking Lot
Liberty Station	<ul style="list-style-type: none"> Womble Road Driveway Roosevelt Road Driveway 	<ul style="list-style-type: none"> Rosecrans Street and Womble Road Rosecrans Street and Roosevelt Road 	<ul style="list-style-type: none"> Liberty Station Parking Lots

Table 3.1: Big Bay Boom Transportation Data Collection

View Location	Roadway Segment Counts	Bike and Pedestrian Counts	Parking Lots
America's Cup Harbor	<ul style="list-style-type: none"> • Scott Street – between Garrison Street and Fenelon Street 	<ul style="list-style-type: none"> • Harbor Drive and Scott Street 	<ul style="list-style-type: none"> • America's Cup Parking Lot on north side of Harbor Drive • America's Cup Retail Parking Lot on south side of Harbor Drive • Sport Fisher Parking Lot • America's Cup Industrial/Harbor Parking Lot
Shelter Island	<ul style="list-style-type: none"> • Shelter Island Drive – between Anchorage Lane and Roundabout 	<ul style="list-style-type: none"> • Shelter Island Drive (at Pearson Deli Crosswalk) 	<ul style="list-style-type: none"> • Shelter Island Parking Lot
Point Loma & Cabrillo Point	<ul style="list-style-type: none"> • Rosecrans Street – between Talbot Street and McCall Street • Cabrillo Memorial Drive – between Ashburn Road and Cabrillo Road 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • None

Source: Chen Ryan Associates, July 2015.

3.3 North Embarcadero

The area along Harbor Drive from Grape Street to Broadway, including the B Street Pier and Broadway Pier, was available for viewing the Big Bay Boom event. Large crowds were observed wandering the North Embarcadero area starting early in the afternoon, around 1:00 PM. Heavy vehicular traffic was observed along Harbor Drive, Hawthorne Street and Pacific Highway, while considerable pedestrian and bicyclist traffic was observed in areas closer to the waterfront, such as at the intersection of Harbor Drive and Broadway. The figure and tables below summarize observed vehicular, pedestrian and bicycle traffic along the roadway facilities adjacent to the North Embarcadero during the event, as well as the observed parking occupancy for the facilities serving this area.

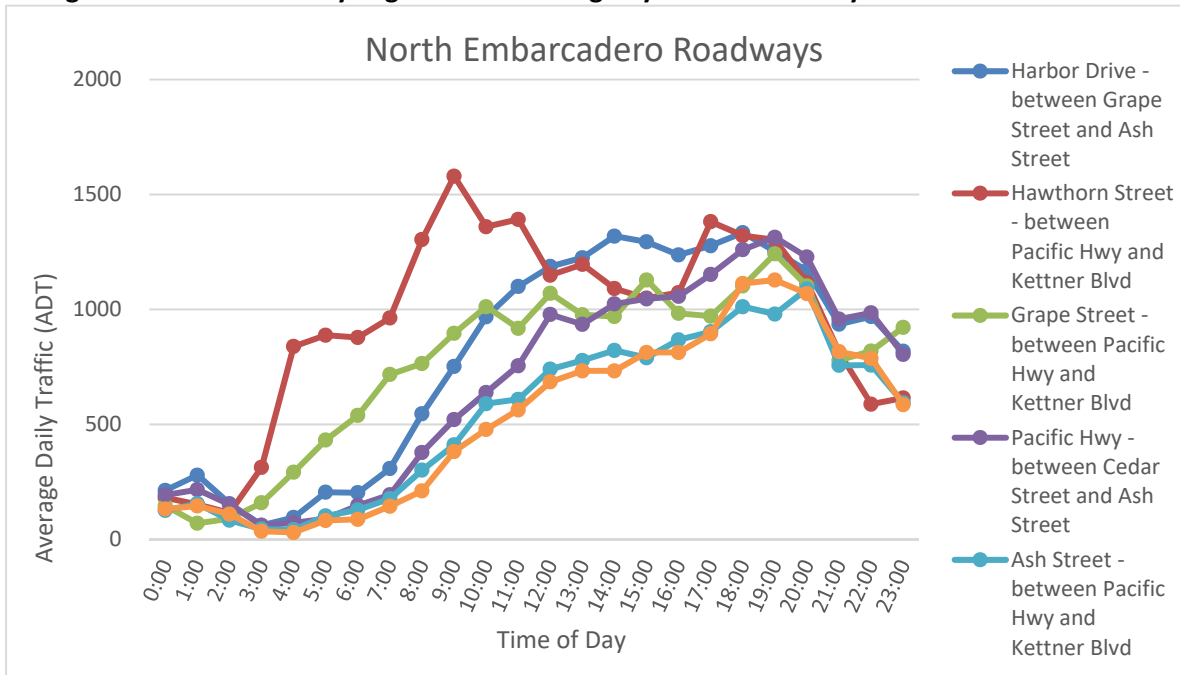


Broadway & Harbor Drive Intersection. Source: Chen Ryan Associates, July 2015

Roadway Segments

Figure 3-2 displays roadway segment daily traffic volumes, observed during the Big Bay Boom event day, along the main roadways that provide vehicular access to the area.

Figure 3-2 Roadway Segment ADT on Big Bay Boom Event Day – North Embarcadero



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown, the highest traffic volumes for the majority of the roadway segments were observed between 7:00 PM and 8:00 PM, just prior to the start of the Big Bay Boom event. Traffic volumes remained high for approximately three hours after the event, from 9:00 PM to midnight.



Broadway – between Harbor Drive and Pacific Highway. Source: Chen Ryan Associates, July 2015.

Table 3.2 provides a comparison of the roadway segment average daily traffic volumes (ADT) providing access to the North Embarcadero area during both the Big Bay Boom event day and a typical summer Saturday (non-event).

Table 3.2: Roadway Segments ADT Comparisons – North Embarcadero

Roadway	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Harbor Drive	Between Grape Street and Ash Street	18,902	21,020	-10%
Hawthorn Street	Between Pacific Highway and Kettner Boulevard	22,663	26,259	-14%
Grape Street	Between Pacific Highway and Kettner Boulevard	18,070	20,804	-13%
Pacific Highway	Between Cedar Street and Ash Street	16,159	15,696	3%
Ash Street	Between Pacific Highway and Kettner Boulevard	12,860	10,340	24%
Broadway	Between Pacific Highway and Kettner Boulevard	12,569	8,698	45%
Total Change for the Area ¹			-2%	

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

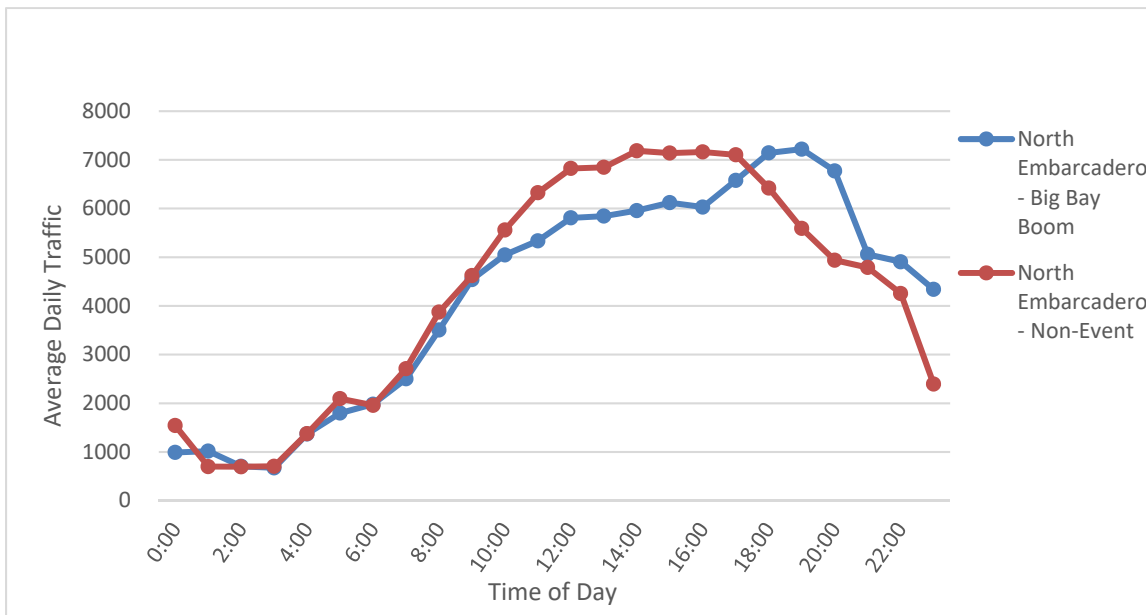
Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown, the North Embarcadero area experienced an average decrease of 2% in average daily vehicular traffic during the 4th of July. It should be noted that the observed decrease in vehicular traffic may be associated with fewer community members accessing restaurant and commercial establishments in Downtown San Diego due to the July 4th holiday, and may not be directly related to the actual event.

Figure 3-3 compares average hourly traffic volumes, combined across all observed roadways, between the Big Bay Boom event day and non-event conditions, within the North Embarcadero area.

Figure 3-3 Roadway Segment ADT During Big Bay Boom Event Day and Non-event Conditions – North Embarcadero Area



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown in Figure 3-3, traffic volumes on the Big Bay Boom event day were consistently lower than non-event conditions between 10:00 AM and 5:00 PM. However, traffic volumes during the Big Bay Boom event day spiked above non-event conditions, between 7:00 PM and 8:00 PM, just prior to the start of the Big Bay Boom event.

Intersections

Table 3.3 displays vehicular, pedestrian, and bicyclist volumes at key intersections in the North Embarcadero area during both the Big Bay Boom event and non-event (August 22, 2015) conditions.

Table 3.3: Intersection Volumes (7:00 PM to 11:00 PM) – North Embarcadero

Intersection	Event (Big Bay Boom)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Harbor Drive and Hawthorn Street	8,703	2,250	48	10,257	75	17	-15%	2,900%	182%
Harbor Drive and Grape Street	6,999	3,752	0	8,230	241	19	-15%	1,457%	-100%
Harbor Drive and Ash Street	5,418	7,525	443	4,372	1,477	10	24%	410%	4,330%
Harbor Drive and Broadway	4,704	9,950	631	4,337	2,257	300	9%	341%	110%
Total Change for the Area¹							-5%	480%	224%

Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown, similar to daily roadway segment volumes, the North Embarcadero area experienced a 5% average decrease in peak hour intersection vehicular traffic. There was an average increase of 480% in pedestrian activity, and an average increase of 224% in cyclist activity in the hours before and after the Big Bay Boom event.

Parking

Parking at the North Embarcadero area is available at various public parking lots and along streets such as Harbor Drive and Pacific Highway. **Table 3.4** displays the parking occupancy observed at different times throughout the afternoon during both the Big Bay Boom event day and non-event conditions.

Table 3.4: Parking Occupancy – North Embarcadero

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7PM to 8PM	
	Event	Non-event	Event	Non-event	Event	Non-event	Event	Non-event
Harbor Drive Surface Parking (in front of Solar Turbines)	100%	100%	100%	80%	100%	100%	100%	95%
Harbor Drive Surface Parking (in front of County Admin. Center)	100%	100%	100%	100%	100%	100%	100%	90%
G Street Pier Parking Lot	100%	100%	100%	100%	100%	100%	100%	80%
Navy Pier Parking Lot	100%	100%	100%	100%	100%	100%	100%	100%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown in Table 3.4, all of the parking lots observed remained at full capacity (100%) during the four (4) observation periods during the 4th of July, and ranged between 80% and 100% occupied during non-event conditions.



Tuna Harbor Park Parking Lot. Source: Chen Ryan Associates, July 2015.

3.4 South Embarcadero & Seaport Village

The South Embarcadero & Seaport Village area is located between North Embarcadero and the San Diego Convention Center, southwest of Downtown San Diego. The area from Broadway to the Old Police Headquarters complex in Seaport Village provided attendees with excellent viewing possibilities. Large crowds were observed wandering the South Embarcadero & Seaport Village area starting early in the afternoon, around 1:00 PM. The majority of people attending the event were observed in the Seaport Village area. During the early afternoon (2 PM), heavy traffic was observed at the intersection of Pacific Highway and Harbor Drive. The figure and tables below outline observed vehicular, pedestrian and bicycle traffic along the roadway facilities adjacent to the South Embarcadero & Seaport Village area during the event, as well as observed parking occupancy in the facilities serving this area.

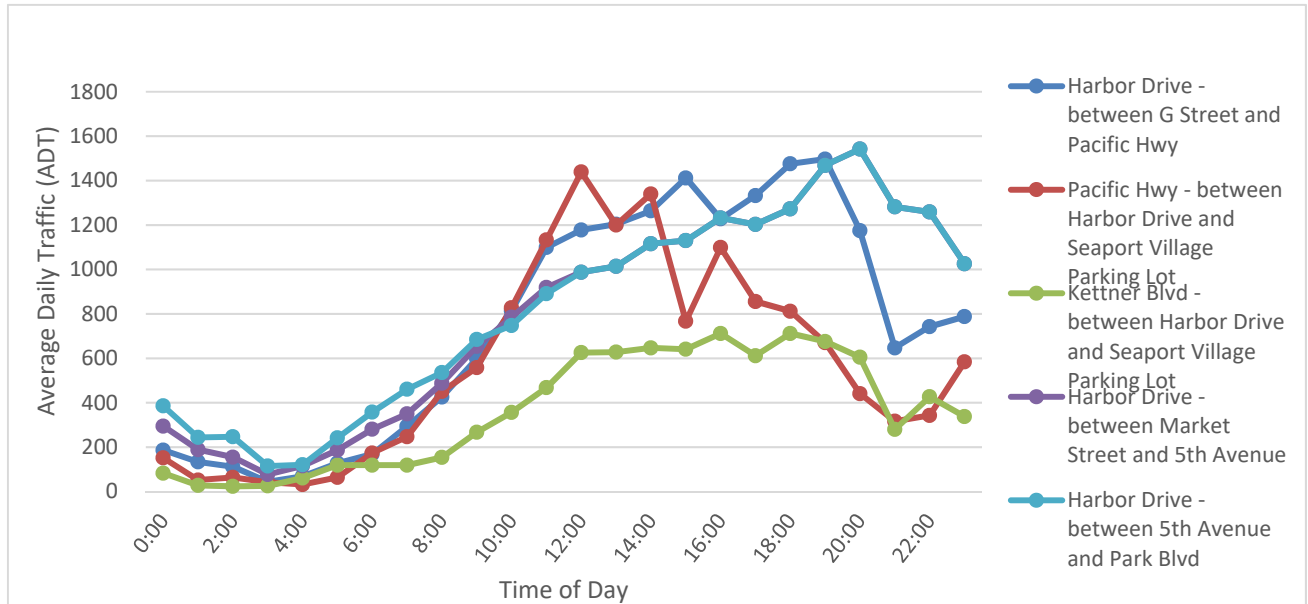


People walking on the path between Tuna Park and Seaport Village. Source: PTD, July 2015. Chen Ryan Associates, July 2015.

Roadway Segments

Figure 3-4 displays roadway segment daily traffic volumes, observed during the Big Bay Boom event day, along the main roadways that provide vehicular access to the South Embarcadero & Seaport Village viewing areas.

Figure 3-4 Roadway Segments ADT on Big Bay Boom Event Day – South Embarcadero & Seaport Village



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown, the highest traffic volumes for the majority of the roadway segments were observed between 8:00 PM and 9:00 PM, just prior to the start of the Big Bay Boom event.

Table 3.5 provides a comparison of the roadway segment ADTs in the South Embarcadero & Seaport Village area during both the Big Bay Boom event day and non-event conditions.

Table 3.5: Roadway Segments ADT Comparisons – South Embarcadero & Seaport Village

Roadway	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Harbor Drive	Between G Street and Pacific Highway	18,021	13,912	30%
	Between Market Street and Fifth Avenue	18,835	17,711	6%
	Between Fifth Avenue and Park Boulevard	19,568	22,650	-14%
Pacific Highway	Between Harbor Drive and Seaport Village Parking Lot	13,666	13,363	2%
Kettner Boulevard	Between Harbor Drive and Seaport Village Parking Lot	8,729	8,056	8%
Total Change for the Area ¹				4%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015

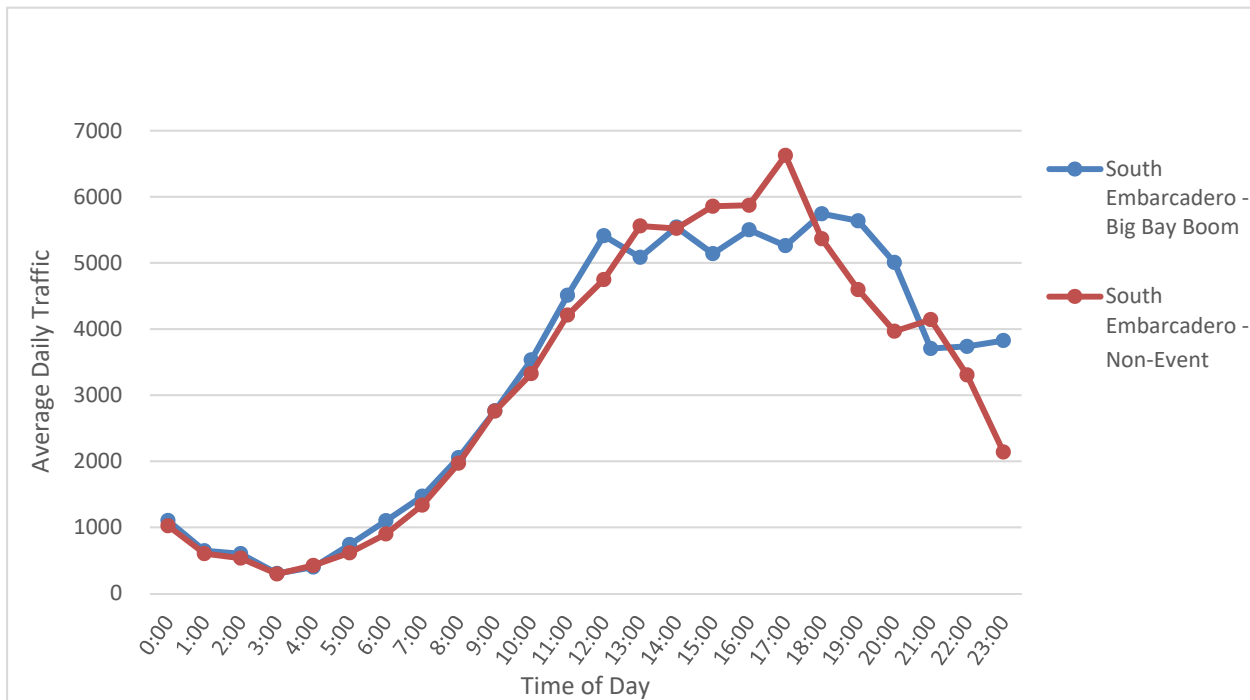
Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in Table 3.5, the South Embarcadero & Seaport Village area experienced an average increase of 4% in average daily vehicular traffic during the Big Bay Boom event day.

Figure 3-5 compares the hourly traffic volumes, combined across all observed roadways, between the Big Bay Boom event day and non-event conditions, in the South Embarcadero & Seaport Village area.

Figure 3-5 Roadway Segment ADT during Big Bay Boom Event Day and Non-event Conditions – South Embarcadero & Seaport Village Area



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown, the traffic volumes in the South Embarcadero & Seaport Village area were similar during both the Big Bay Boom event day and non-event conditions. However, a spike in traffic volume was observed during the Big Bay Boom event day between 6:00 PM and 7:00 PM, just a few hours prior to the start of the Big Bay Boom event. Additionally, high traffic volumes were observed between 9:00 PM and 11:00 PM during the Big Bay Boom event day event, as compared to non-event conditions. These higher volumes could be attributed to community members exiting the area after the Big Bay Boom event, which ended around 9:30 PM.

Intersections

Table 3.6 displays vehicular, pedestrian, and bicyclist volumes at key intersections in the South Embarcadero & Seaport Village area, during both the Big Bay Boom event and non-event conditions.

Table 3.6: Intersection Volumes (7:00 PM to 11:00 PM) – South Embarcadero & Seaport Village

Intersection	Event (Big Bay Boom)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Pacific Highway and Harbor Drive	6,810	14,269	938	5,987	1,571	59	14%	808%	1,490%
Kettner Boulevard and Harbor Drive	6,729	18,223	860	6,138	3,409	68	10%	435%	1,165%
Market and Harbor Drive	6,126	8,257	372	5,881	1,804	120	4%	358%	210%
First Avenue and Harbor Drive	6,271	8,222	339	5,879	2,345	126	7%	251%	169%
Front Street and Harbor Drive	5,963	5,534	633	4,884	1,178	21	22%	370%	2,914%
Fifth Avenue and Harbor Drive	6,041	9,395	810	5,150	2,875	15	17%	227%	5,300%
Harbor Drive Pedestrian Bridge	-	5,699	469	-	1,029	22	-	454%	2,032%
Total Change for the Area¹							12%	390%	926%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015

Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in Table 3.6, the South Embarcadero & Seaport Village area experienced an average increase of 12% in intersection vehicular traffic, an average increase of 390% in pedestrian activity, and an average increase of 926% in cyclist activity during the Big Bay Boom event.

Parking

Parking was available in the Seaport Village and the South Embarcadero parking lots. **Table 3.7** displays parking occupancy at different times during the afternoon during both the Big Bay Boom event day and under non-event conditions.

Table 3.7: Parking Occupancy – South Embarcadero & Seaport Village

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7 PM to 8 PM	
	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event
South Embarcadero – Surface Parking Lots 1	100%	100%	100%	90%	100%	100%	100%	100%
South Embarcadero – Surface Parking Lots 2	100%	90%	100%	90%	100%	100%	100%	100%
Seaport Village Parking Lot	100%	100%	100%	100%	100%	100%	100%	100%
Convention Center Parking Lot	100%	100%	100%	100%	100%	100%	100%	100%
Port Hotel Parking Facility	75%	75%	75%	75%	75%	75%	75%	75%
Parcel D Parking Lot	100%	100%	100%	100%	100%	100%	100%	100%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown, with the exception of the Port Hotel Parking Facility, all of the parking lots were at full capacity (100%) during the four observation periods during the Big Bay Boom event day, and ranged between 90% and 100% occupied under non-event conditions.



Embarcadero Marina Park South Parking Lot. Source: Chen Ryan Associates, July 2015

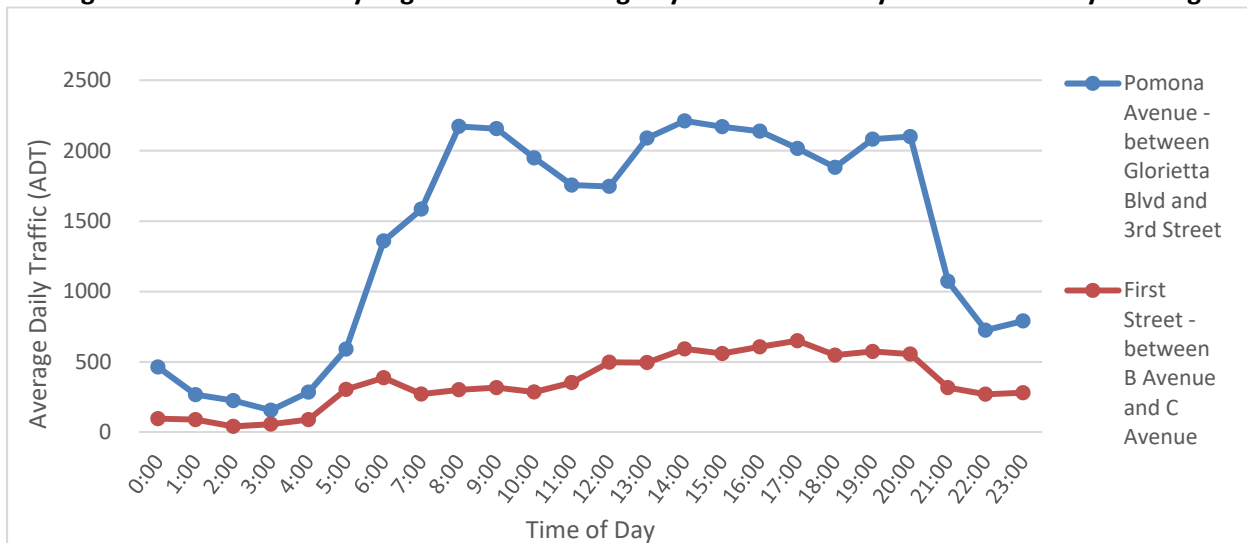
3.5 Coronado

Large crowds and heavy traffic were observed throughout the day in Coronado, especially, in the area around the Coronado Ferry Landing and Coronado Tidelands Park. The Coronado Ferry Landing is located on the northeast side of the Coronado Island, west of Downtown San Diego. Its shopping area provided attendees with an excellent view of the Bay. Coronado Tidelands Park is located on the northeast side of the island directly north of the western terminus of the Coronado Bridge.

Roadway Segments

Figure 3-6 displays roadway segment daily traffic volumes, observed during the Big Bay Boom event day, along the main roadways that provide vehicular access to this area.

Figure 3-6 Roadway Segments ADT on Big Bay Boom Event Day– Coronado Ferry Landing



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown in Figure 3-6, Pomona Avenue between Glorietta Boulevard and Third Street maintained high traffic volumes (around 2,000 trips per hour) for the majority of the day, while First Street had a lower volume, at about 500 trips per hour during the same time period.

Table 3.8 provides a comparison of the roadway segment ADTs in Coronado during both the Big Bay Boom event day, as well as during non-event conditions.

Table 3.8: Roadway Segments ADT Comparisons – Coronado Ferry Landing

Roadway	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Pomona Avenue	Between Glorietta Boulevard and Third Street	33,995	37,421	-9%
First Street	Between B Avenue and C Avenue	8,567	8,940	-4%
Total Change for the Area ¹				-8%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

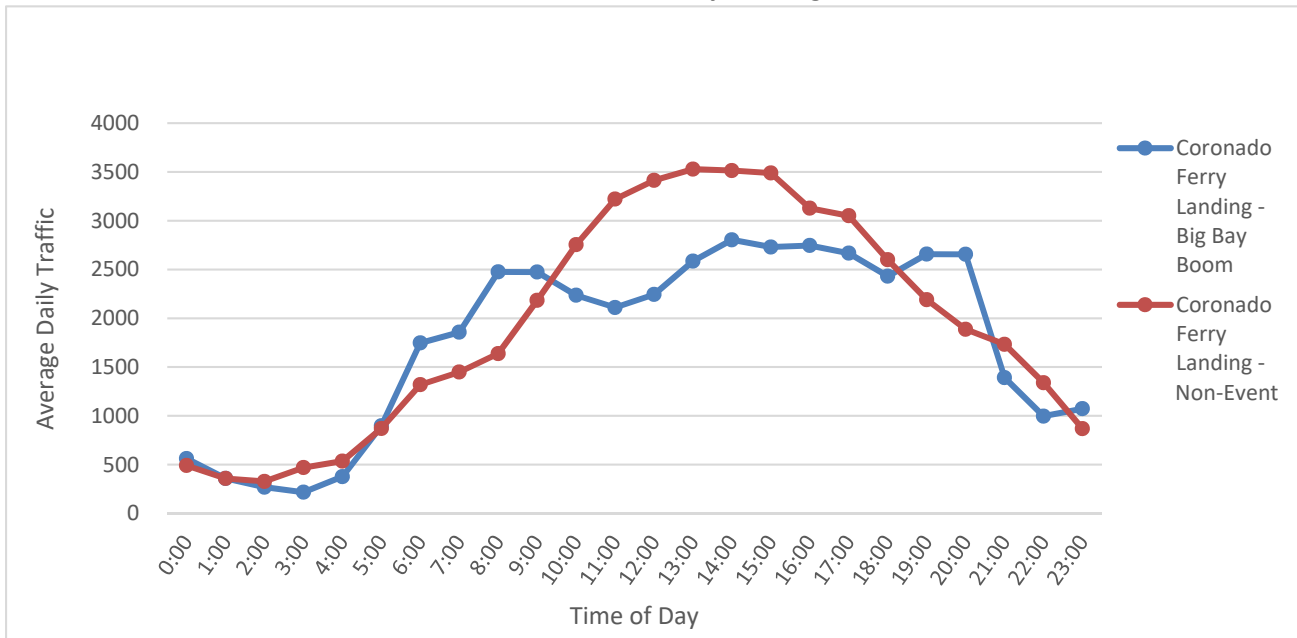
Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in the table above, the Coronado viewing areas experienced an average decrease of 8% in average daily vehicular traffic.

Figure 3-7 compares hourly traffic volumes, combined across all observed roadways, between the Big Bay Boom event day and non-event conditions, in the Coronado Ferry Landing area.

Figure 3-7 Roadway Segment ADT during Big Bay Boom Event Day and Non-event Conditions – Coronado Ferry Landing



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown in Figure 3-7, average daily traffic during the Big Bay Boom event day was consistently lower compared to non-event conditions between 10:00 AM and 6:00 PM. The highest traffic volumes during the Big Bay Boom event day were experienced between 7:00 PM and 8:00 PM, just prior to the start of the Big Bay Boom event.

Intersections

Table 3.9 displays vehicular, pedestrian, and bicyclist volumes at the key intersections during both the Big Bay Boom event and non-event conditions.

Table 3.9: Intersection Volumes (7:00 PM to 11:00 PM) - Coronado Ferry Landing

Intersection	Event (Big Bay Boom)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
First Street and B Avenue	2,192	6,653	403	1,388	1,010	20	58%	559%	1,915%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown, the Coronado viewing areas experienced an increase of 58% in intersection vehicular traffic, an increase of 559% in pedestrian activity, and an increase of 1,915% in cyclist activity during the Big Bay Boom event.

Parking

Parking was not only available at the Ferry Landing and at Coronado Tidelands Park but also on the public streets in the general vicinity. **Table 3.10** displays parking occupancy observed at different times during the afternoon during both the Big Bay Boom event day and during non-event conditions.

Table 3.10: Parking Occupancy – Coronado Ferry Landing

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7 PM to 8 PM	
	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event
Coronado Ferry Landing Parking Lot	100%	94%	100%	95%	100%	100%	100%	100%
Coronado Tidelands Park	100%	97%	100%	95%	100%	80%	100%	50%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown in the table above, the parking lots remained at full capacity (100%) during the four observation periods during the Big Bay Boom event day, and ranged between 50% and 100% of capacity under non-event conditions.

3.6 Harbor Island

Harbor Island is located between Shelter Island and Downtown San Diego, making it a prime location to watch the fireworks show. Large crowds and high volumes of traffic were observed at this location. Parking was extremely limited on Harbor Island and it was full by early afternoon. Goldfield Stage, a transportation partner during the Big Bay Boom, provided free shuttle service to Harbor Island. Passengers were picked up from the corner of McCain Road and North Harbor Drive west of Airport Terminal 2 and

dropped off and picked up after the show at the San Diego Harbor Police Headquarters. The final shuttle run was at 11:00 PM.

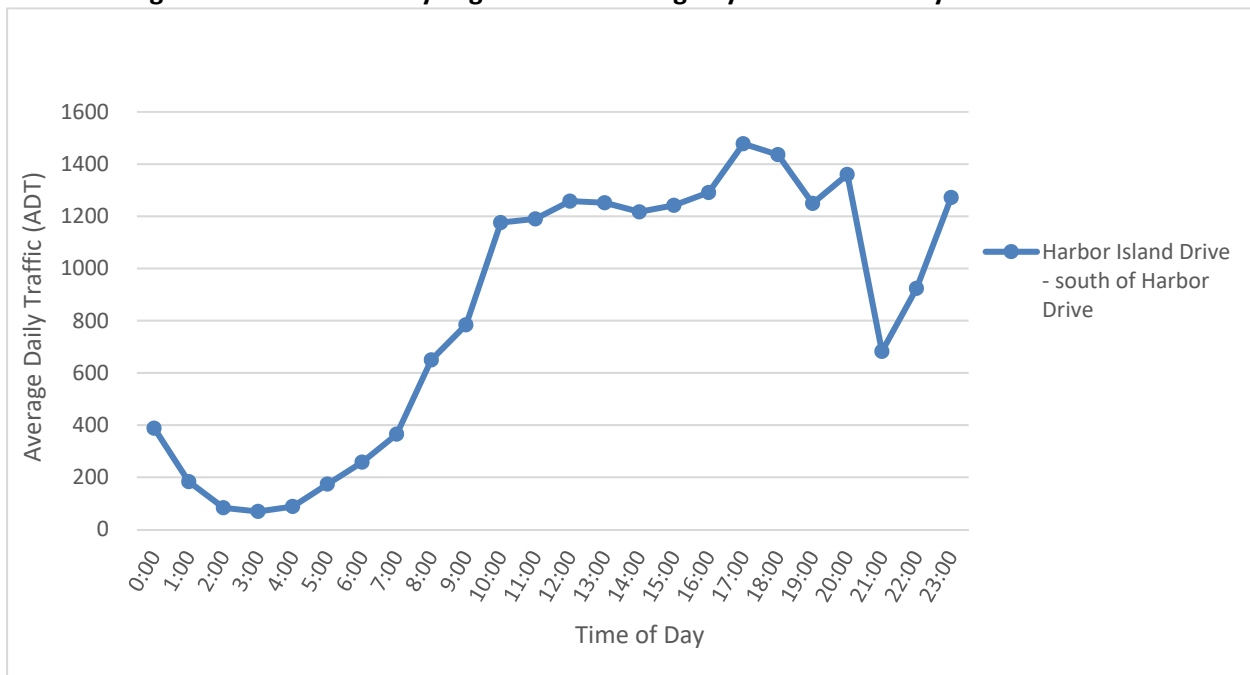


Harbor Island viewing area on the 4th of July, Source: Chen Ryan Associates, July 2015

Roadway Segments

The only roadway studied for the Harbor Island location was Harbor Island Drive, since it is the only access point to/from the island. **Figure 3-8** displays roadway segment daily traffic volumes, observed during the Big Bay Boom event day, along the only roadway that provides vehicular access to the area.

Figure 3-8 Roadway Segment ADT on Big Bay Boom Event Day– Harbor Island



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown in Figure 3-8, Harbor Island Drive south of Harbor Drive, reached its peak demand period between 5:00 PM and 6:00 PM, as well as between 8:00 PM and 9:00 PM, which could be associated with viewers arriving at the event. An additional spike in traffic also occurred between 11:00 PM and midnight, which could be associated with viewers leaving the event.

Table 3.11 provides a comparison of the roadway segment ADT on Harbor Island Drive both during the Big Bay Boom event day, as well as under non-event conditions.

Table 3.11: Roadway Segments ADT Comparisons – Harbor Island

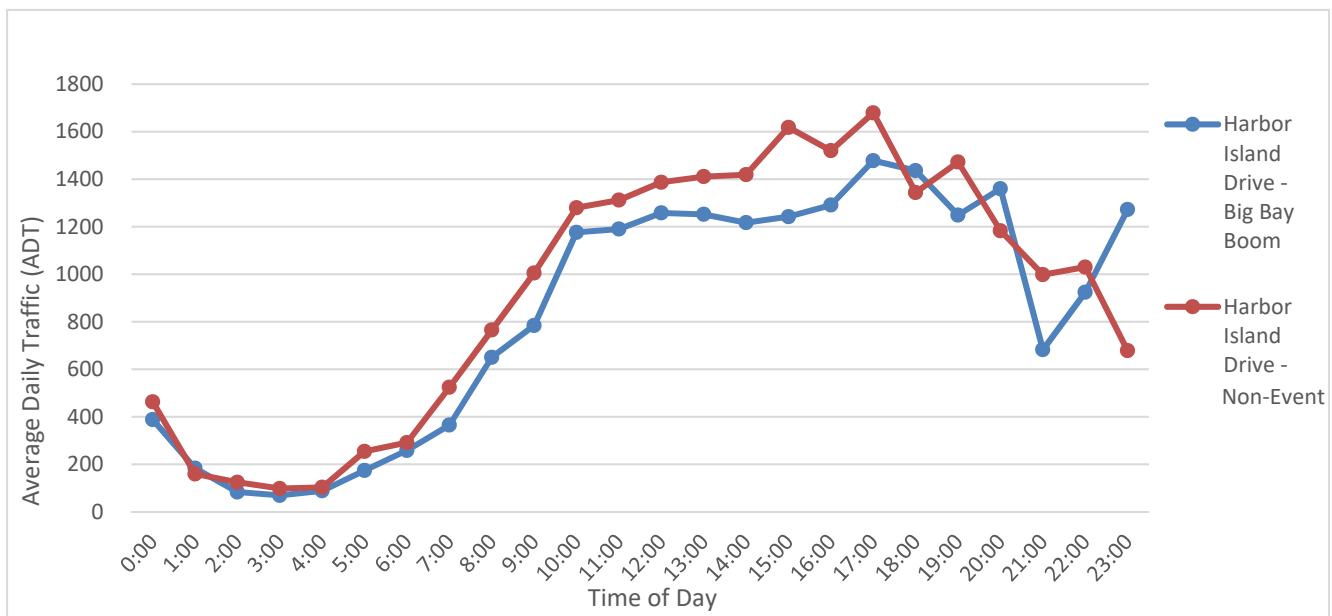
Roadway	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Harbor Island Drive	South of Harbor Drive	20,069	22,117	-9%

Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown, Harbor Island experienced a decrease of 9% in average daily vehicular traffic during the Big Bay Boom event day. This decrease in traffic may be associated with the lack of available public parking on the island, which may have deterred some community members from driving to the island.

Figure 3-9 compares the hourly traffic volumes, combined across all observed roadways, between the Big Bay Boom event day and non-event conditions, in Harbor Island.

Figure 3-9 Roadway Segment ADT during Big Bay Boom Event Day and Non-event Conditions - Harbor Island



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown in Figure 3-9, traffic volumes during the Big Bay Boom event day were consistently lower compared to non-event conditions between 5:00 AM and 9:00 PM. However, traffic volumes during the Big Bay Boom event day spiked between 9:00 PM and 11:00 PM, which could be attributed to community members exiting the island after the Big Bay Boom event, which ended around 9:30 PM.

Intersections

Table 3.12 displays vehicular, pedestrian, and bicyclist volumes at key intersections during both the Big Bay Boom event day and non-event conditions.

Table 3.12: Intersection Volumes (7:00 PM to 11:00 PM) - Harbor Island

Intersection	Event (Big Bay Boom)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Harbor Island Drive and Harbor Drive	9,304	856	152	11,511	74	67	-19%	1,057%	127%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown in the table above, Harbor Island experienced a decrease of 19% in intersection vehicular traffic, an increase of 1,057% in pedestrian activity, and an increase of 127% in bicyclist activity during the Big Bay Boom event. The high increase in pedestrian activity may further confirm that most community members decided to park off site and walk to the island due to the high demand for available public parking on the island itself.

Parking

Parking at Harbor Island is extremely limited since there is only one public off-street parking lot on the island with a capacity of approximately 88 vehicles, as well as a few time-limited on-street parking spaces.

Table 3.13 displays parking occupancy observed at different times during the afternoon.

Table 3.13: Parking Occupancy – Harbor Island

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7 PM to 8 PM	
	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event
Harbor Island Parking Lot	100%	85%	100%	95%	100%	80%	100%	60%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown, all of the off-street public parking spaces at Harbor Island were at full capacity (100%) during the four observation periods during the Big Bay Boom event, and between 60% and 95% in capacity under non-event conditions.

3.7 Spanish Landing

Spanish Landing Park is located across from the San Diego International Airport and extends between Harbor Island Drive and Spanish Landing Way. This park features a pedestrian path, bike route, picnic tables, and benches. The vast majority of the attendees at this location were families who showed up

early in the morning (as early as 5 AM) in order to claim a spot from which to enjoy the fireworks show at night.

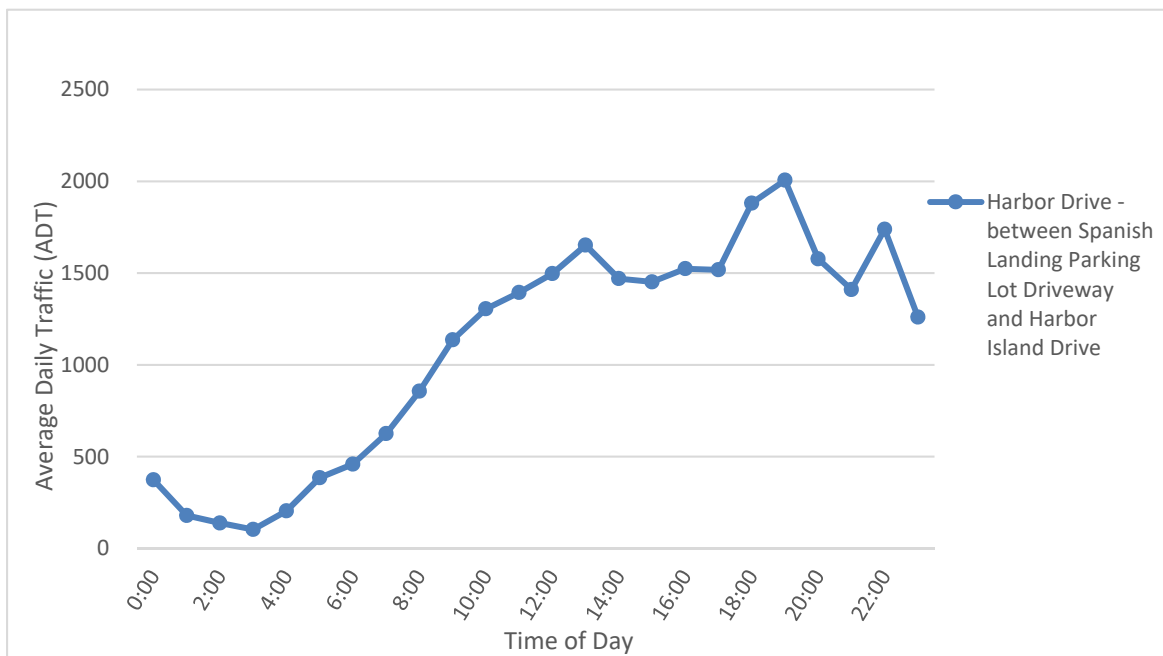


Spanish Landing viewing area on the 4th of July, Source: Chen Ryan Associates, July 2015

Roadway Segments

The only roadway studied in the Spanish Landing Park location was Harbor Drive since it is the only roadway adjacent to the park. **Figure 3-10** displays roadway segment daily traffic volumes, observed during the Big Bay Boom event day, along the main roadway providing vehicular access to the area.

Figure 3-10 Roadway Segment ADT on Big Bay Boom Event Day– Spanish Landing Park



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown in Figure 3-10, Harbor Drive between Spanish Landing Parking Lot Driveway and Harbor Island Drive reached its peak in the period of time between 7:00 PM and 8:00 PM, just prior to the beginning of the Big Bay Boom event. There was also an additional spike in vehicular traffic between 10:00 PM and 11:00 PM that could be associated with viewers exiting the site after the event.

Table 3.14 provides a comparison of the roadway segment adjacent to the Spanish Landing area both during the Big Bay Boom event day, as well as during non-event conditions.

Table 3.14: Roadway Segments ADT Comparisons – Spanish Landing

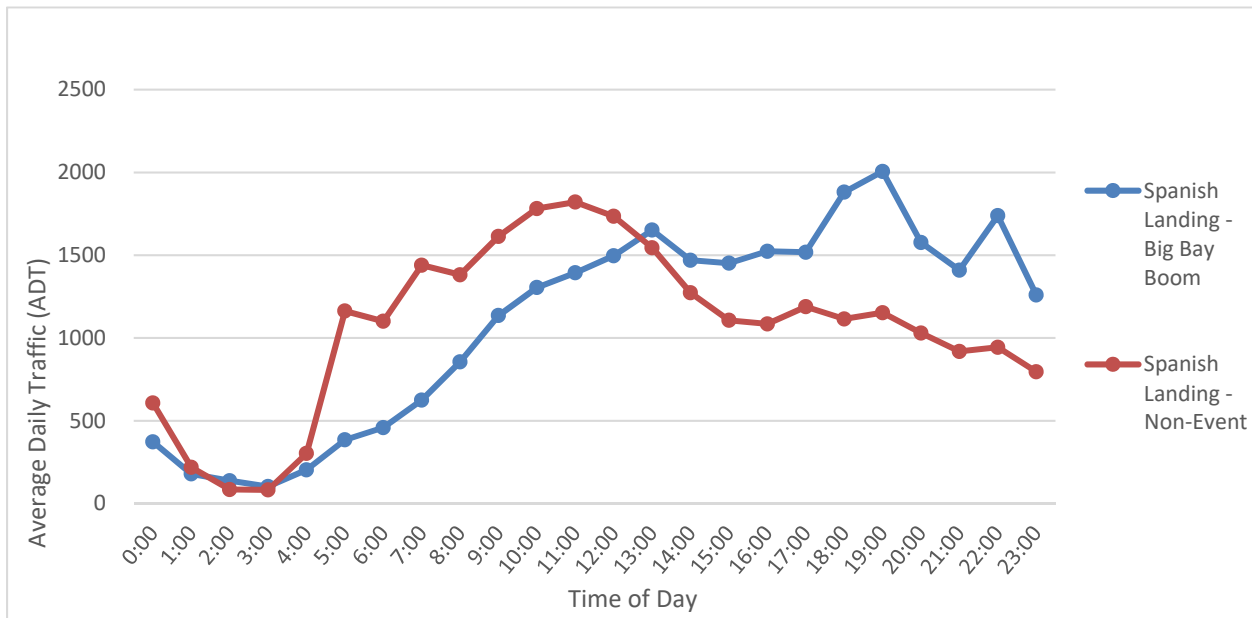
Roadway Segment	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Harbor Drive	Between Spanish Landing Parking Lot Driveway and Harbor Island Drive	26,143	25,492	3%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown, Harbor Drive between the Spanish Landing parking lot driveway and Harbor Island Drive experienced an increase of 3% in average daily vehicular traffic during the 4th of July event.

Figure 3-11 compares the hourly traffic volumes, combined across all observed roadways, between the Big Bay Boom event day and non-event conditions, in the Spanish Landing Park area.

Figure 3-11 Roadway Segment ADT During Big Bay Boom Event Day and Non-event Conditions – Spanish Landing Park



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown, the traffic volumes during the Big Bay Boom event were consistently lower than non-event conditions between 4:00 AM and 12:00 PM. However, traffic volumes on Big Bay Boom event day increased significantly both before and after the Big Bay Boom event (at 8:00 PM and 10:00 PM) as community members entered and exited the viewing areas.

Intersections

There are currently no pedestrian or bicycle crossing locations across Harbor Drive that provide access to Spanish Landing. Therefore, no intersections were analyzed at this location.

Parking

Spanish Landing Park features three parking lots with a combined capacity of approximately 180 vehicles. **Table 3.15** displays parking occupancy observed at different times throughout the afternoon during both the Big Bay Boom event day and non-event conditions.

Table 3.15: Parking Occupancy – Spanish Landing

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7 PM to 8 PM	
	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event
Spanish Landing Parking Lots	100%	95%	100%	85%	98%	50%	100%	50%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown in the table above, the parking lots were observed at full capacity (100%) during the first two observation rounds at 1:00 PM and 3:00 PM, but at approximately 98% capacity at 5:00 PM, when a few parking spots were available, and finally filled to capacity again just prior to the event. Under non-event conditions, the parking lots ranged between 50% and 95% of capacity.

3.8 Liberty Station

Liberty Station is a mixed-use development with a park/open space area along the boat channel, located a few miles north of Downtown San Diego. The large open areas in this area make it an attractive setting to watch the fireworks show.

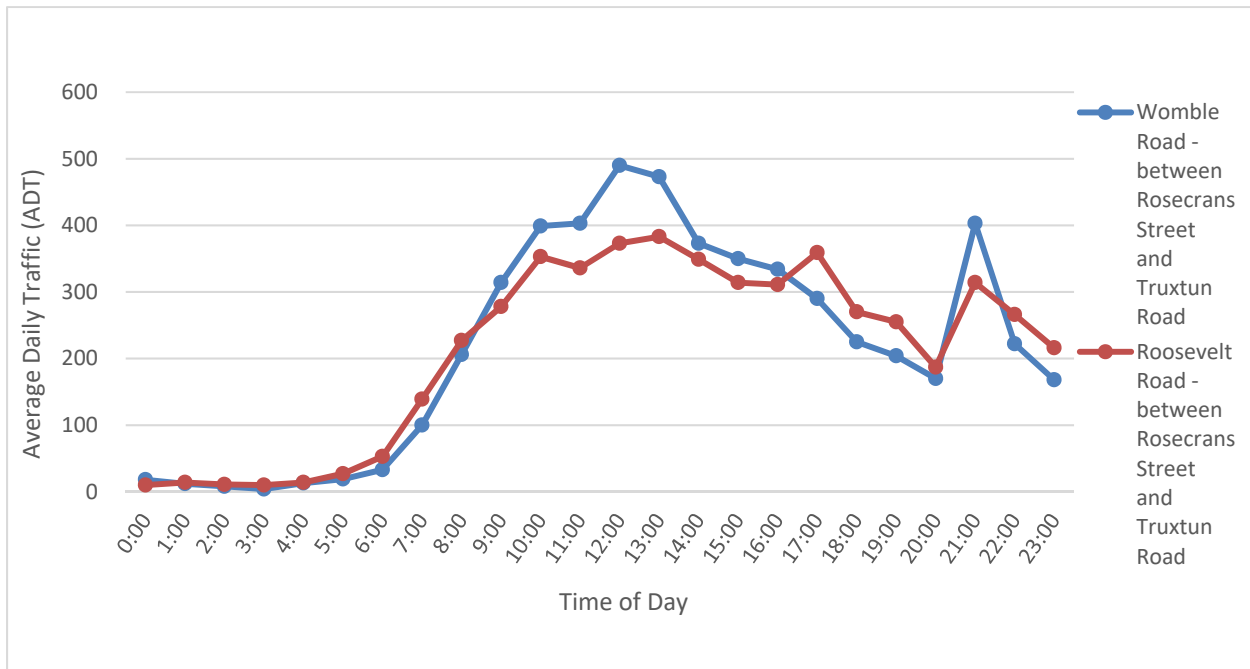


Liberty Station viewing area on the 4th of July, Source: Chen Ryan Associates, July 2015

Roadway Segments

Figure 3-12 displays roadway segment daily traffic volumes, observed during the Big Bay Boom event day, along the main roadways that provide vehicular access to the area.

Figure 3-12 Roadway Segments ADT on Big Bay Boom Event Day – Liberty Station



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown, the access roads into Liberty Station (Womble Road and Roosevelt Road) experienced the highest volumes between 12 PM and 1 PM during the Big Bay Boom event day. Additionally, there was another spike in traffic between 9:00 PM and 10:00 PM from community members exiting Liberty Station after the fireworks show.

Table 3.16 provides a comparison of the roadway segment ADTs for the access roads into Liberty Station both during the Big Bay Boom event day, as well as during non-event conditions.

Table 3.16: Roadway Segments ADT Comparisons – Liberty Station

Roadway Segment	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Womble Road	Between Rosecrans Street and Truxtun Road	5,231	7,544	-31%
Roosevelt Road	Between Rosecrans Street and Truxtun Road	5,069	4,598	10%
Total Change for the Area				-15% ¹

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

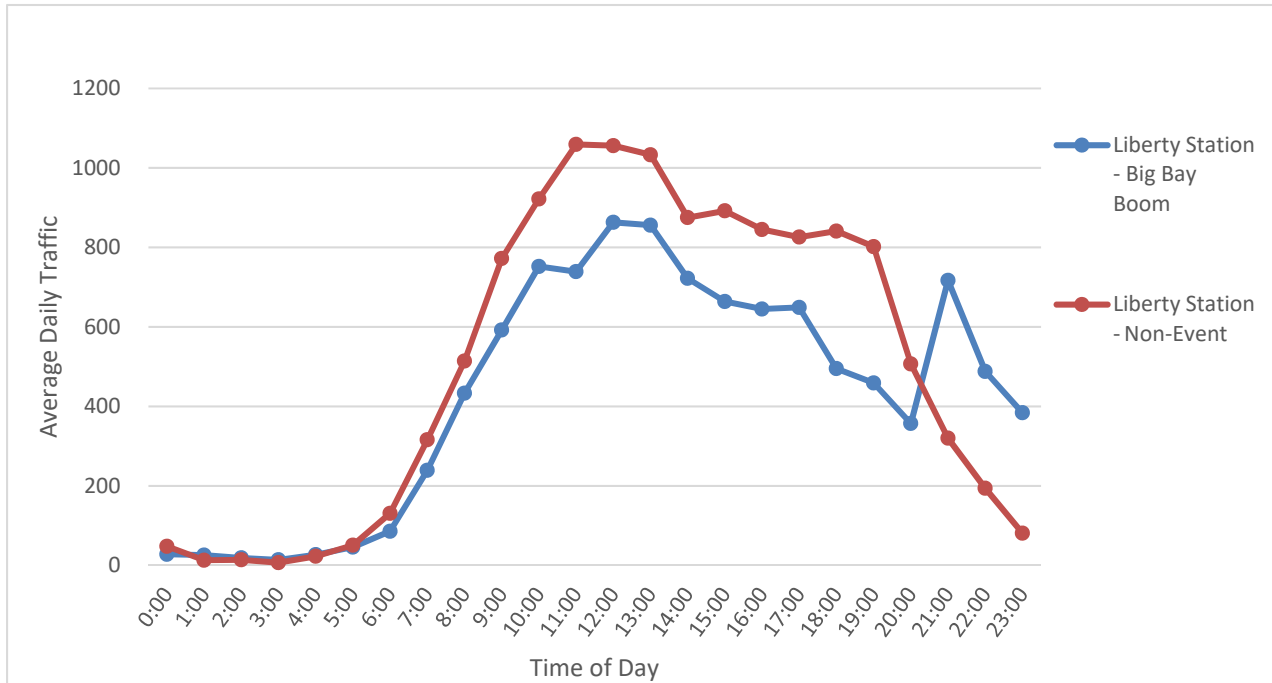
Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown, Liberty Station experienced an average decrease of 15% in average daily vehicular traffic during the Big Bay Boom event day.

Figure 3-13 compares hourly traffic volumes, combined across all observed roadways, between the Big Bay Boom event day and non-event conditions, in the Liberty Station area.

Figure 3-13 Roadway Segment ADT During Big Bay Boom Event Day and Non-event Conditions—Liberty Station



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown in the figure above, average daily traffic during the Big Bay Boom event day was consistently lower compared to non-event conditions between 6:00 AM and 8:00 PM. The highest traffic volumes during the Big Bay Boom event day were experienced between 12:00 PM and 1:00 PM during the fireworks display, and between 11:00 AM and 12:00 PM under non-event conditions.

Intersections

Table 3.17 displays vehicular, pedestrian, and bicyclist volumes at key intersections at the Liberty Station area during both the Big Bay Boom event and non-event conditions.

Table 3.17: Intersection Volumes (7:00 PM to 11:00 PM) - Liberty Station

Intersection	Event (Big Bay Boom)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Rosecrans Street and Womble Road	7,239	66	16	7,306	10	1	-1%	560%	1,500%
Rosecrans Street and Roosevelt Road	7,574	149	30	7,312	24	4	4%	521%	650%
Total Change for the Area ¹							1%	532%	820%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in the table above, Liberty Station experienced an average increase of 1% in intersection vehicular traffic, an average increase of 532% in pedestrians, and an average increase of 820% in bicyclists during the Big Bay Boom event. It should be noted that the observed decrease in vehicular traffic may be associated with fewer community members accessing restaurant and commercial establishments in Liberty Station due to the July 4th holiday, and may not be directly related to the actual firework event.

Parking

Table 3.18 displays parking occupancy observed at different times throughout the afternoon during both the Big Bay Boom event day and non-event conditions.

Table 3.18: Parking Occupancy – Liberty Station

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7 PM to 8 PM	
	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event
Liberty Station Parking Lots Adjacent to the Viewing Area	100%	70%	100%	60%	100%	30%	100%	30%
Other Liberty Station Parking Lots	20%	20%	30%	20%	50%	20%	65%	20%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown, all of the parking lots adjacent to the viewing area remained at full capacity (100%) during the four (4) observation rounds during the Big Bay Boom event day. However, the parking lots in other areas of Liberty Station were observed between 20% and 65% of capacity throughout the afternoon. During non-event conditions, parking lots ranged between 20% and 70% capacity.



Parking on Cushing Road on the 4th of July, Source: Chen Ryan Associates, July 2015

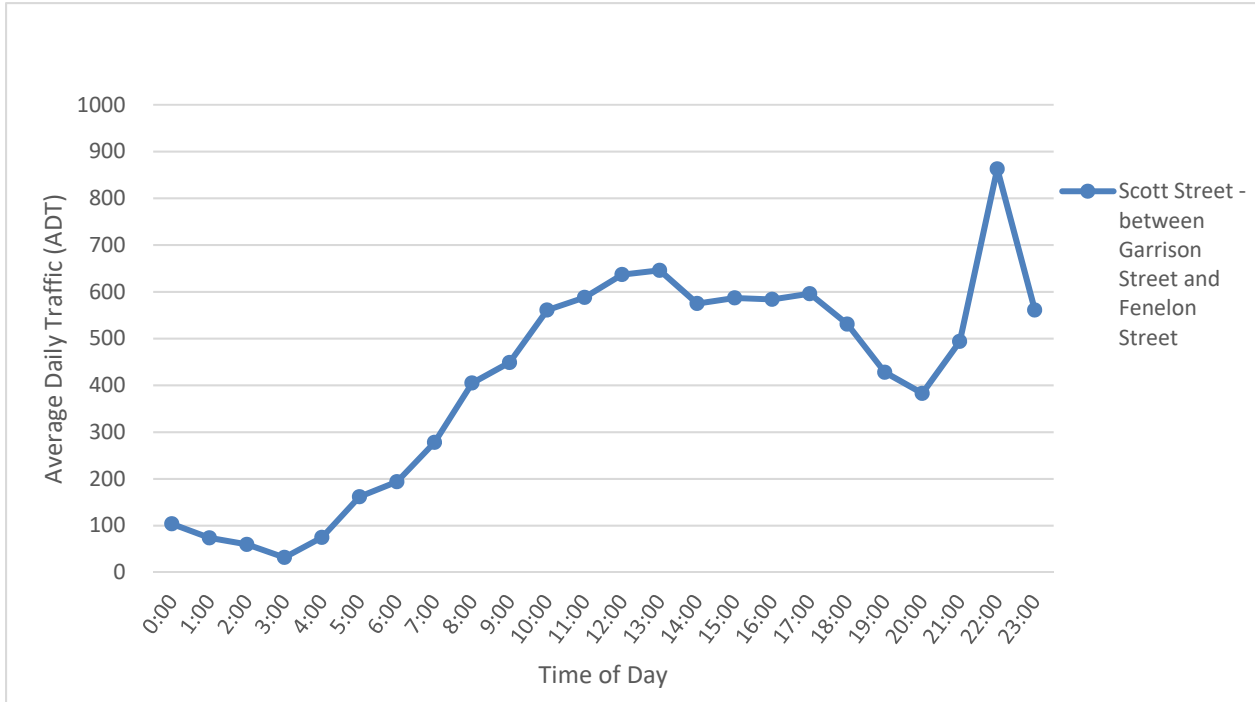
3.9 America’s Cup Harbor

America’s Cup Harbor is located between Harbor Island and Shelter Island, west of Downtown San Diego. Many people attended the restaurants located in this area in order to watch the fireworks display. Heavy traffic coming both from Point Loma and east of the Harbor was observed along Scott Street, Rosecrans Street, and Harbor Drive.

Roadway Segments

The only roadway studied in the America’s Cup Harbor location was Scott Street because it is adjacent to the Harbor. **Figure 3-14** displays roadway segment daily traffic volumes, observed during the Big Bay Boom event day, along the main roadways that provide vehicular access to the area.

Figure 3-14 Roadway Segment ADT on Big Bay Boom Event Day – America’s Cup Harbor



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown, Scott Street between Garrison Street and Fenelon Street reached its peak between 10 PM and 11 PM, which was just after the completion of the Big Bay Boom event.

Table 3.19 provides a comparison of the roadway segment ADTs within America’s Cup Harbor both during the Big Bay Boom event day, as well as during non-event conditions.

Table 3.19: Roadway Segments ADT Comparisons – America’s Cup Harbor

Roadway Segment	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Scott Street	Between Garrison Street and Fenelon Street	9,867	11,109	-11%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown in the table above, America’s Cup Harbor experienced a decrease of 11% in average vehicular traffic during the Big Bay Boom event day.

Intersections

Table 3.20 displays vehicular, pedestrian, and bicyclist volumes at the key intersection in the America’s Cup Harbor area.

Table 3.20: Intersection Volumes (7:00 PM to 11:00 PM) - America’s Cup Harbor

Intersection	Event (Big Bay Boom)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Scott Street and Harbor Drive	3,540	1,060	73	3,576	120	12	-1%	783%	508%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown, America’s Cup Harbor experienced a decrease of 1% in average daily vehicular traffic, an increase of 783% in pedestrian activity, and an increase of 508% in bicyclist activity during the Big Bay Boom event.

Parking

America’s Cup Harbor has four parking areas. **Table 3.21** displays the parking occupancy observed at different times during the afternoon during both the Big Bay Boom event day and non-event conditions.

Table 3.21: Parking Occupancy – America’s Cup Harbor

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7 PM to 8 PM	
	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event
America’s Cup Harbor Retail Parking Lot on south side of Harbor Drive	100%	100%	100%	100%	95%	100%	100%	95%
America’s Cup Harbor Industrial/Harbor Parking Lot	100%	100%	100%	100%	90%	100%	90%	95%
Westy’s Lot	50%	50%	65%	65%	65%	65%	75%	75%
Scott Street Lots	100%	100%	100%	100%	100%	100%	100%	100%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown in the table above, the Retail Parking Lot on south side of Harbor Drive and the Industrial/Harbor Parking Lot were observed at full capacity (100%) on the event day during the first two observation periods. During the third observation period from 5 PM to 6 PM on the event day, both lots were observed at 95% and 90% occupancy, respectively, while during the final observation period both lots were observed at 100% and 90% occupancy, respectively. The Westy’s lot only reached 75% capacity during the Big Bay Boom event. The Scott Street Lots were observed to be parking at 100% occupancy during all observation periods. During non-event conditions, the parking lots ranged between 50% and 100% capacity.

3.10 Shelter Island

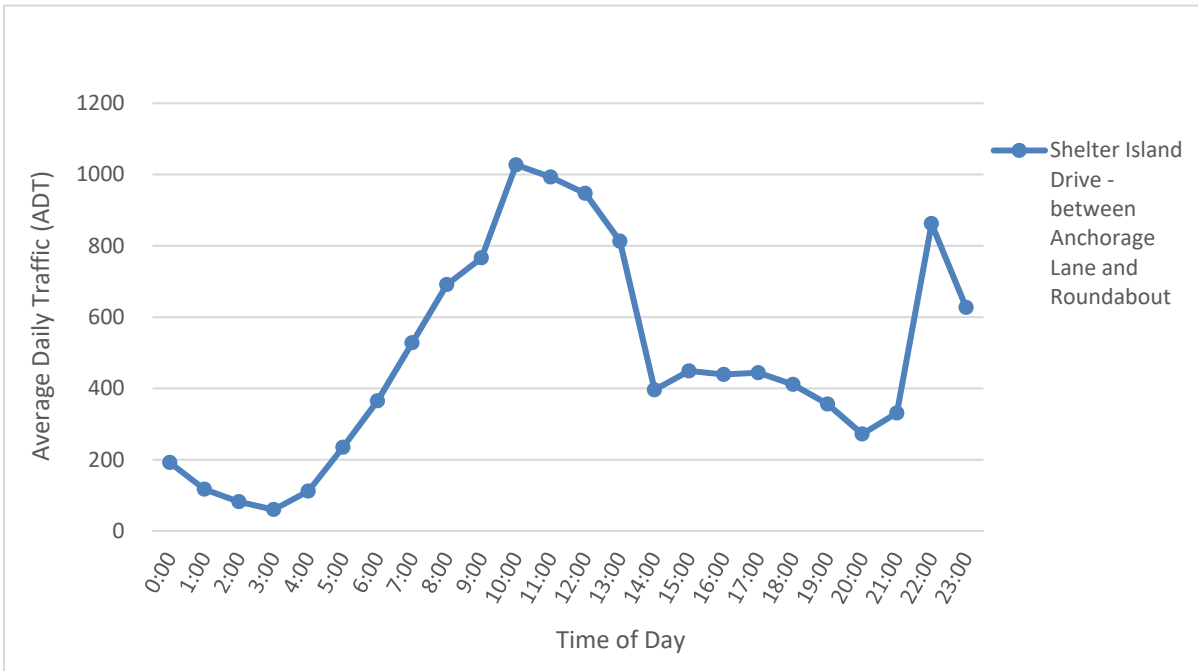
Shelter Island is located to the west of Harbor Island in Point Loma. Shelter Island, like Harbor Island, provides a clear view of the San Diego Bay. Old Town Trolley Shuttle provided Shelter Island free shuttle pick up service from the corner of Carleton Street and Rosecrans Street in Point Loma, adjacent to West

Marine. The shuttle dropped and picked up riders in front of the Gazebo on Shelter Island. The final shuttle ran at 11 PM.

Roadway Segments

The only roadway studied in the Shelter Island location was Shelter Island Drive since it is the only access point to/from the island. **Figure 3-15** displays roadway segment daily traffic volumes, observed during the Big Bay Boom event day, along the main roadways that provide vehicular access to the area.

Figure 3-15 Roadway Segment ADT on Big Bay Boom Event Day – Shelter Island



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown, Shelter Island Drive reached its peak in the period of time between 10:00 AM and 11:00 AM when viewers were coming to the island, and spiked again between 10:00 PM and 11:00 PM just after the completion of the Big Bay Boom event. It should also be noted that traffic on the island dropped significantly between 2:00 PM and 9:00 PM, when the island was closed to traffic.

Table 3.22 provides a comparison of the roadway segment ADTs accessing Shelter Island both during the Big Bay Boom event day, as well as during non-event conditions.

Table 3.22: Roadway Segments ADT Comparisons – Shelter Island

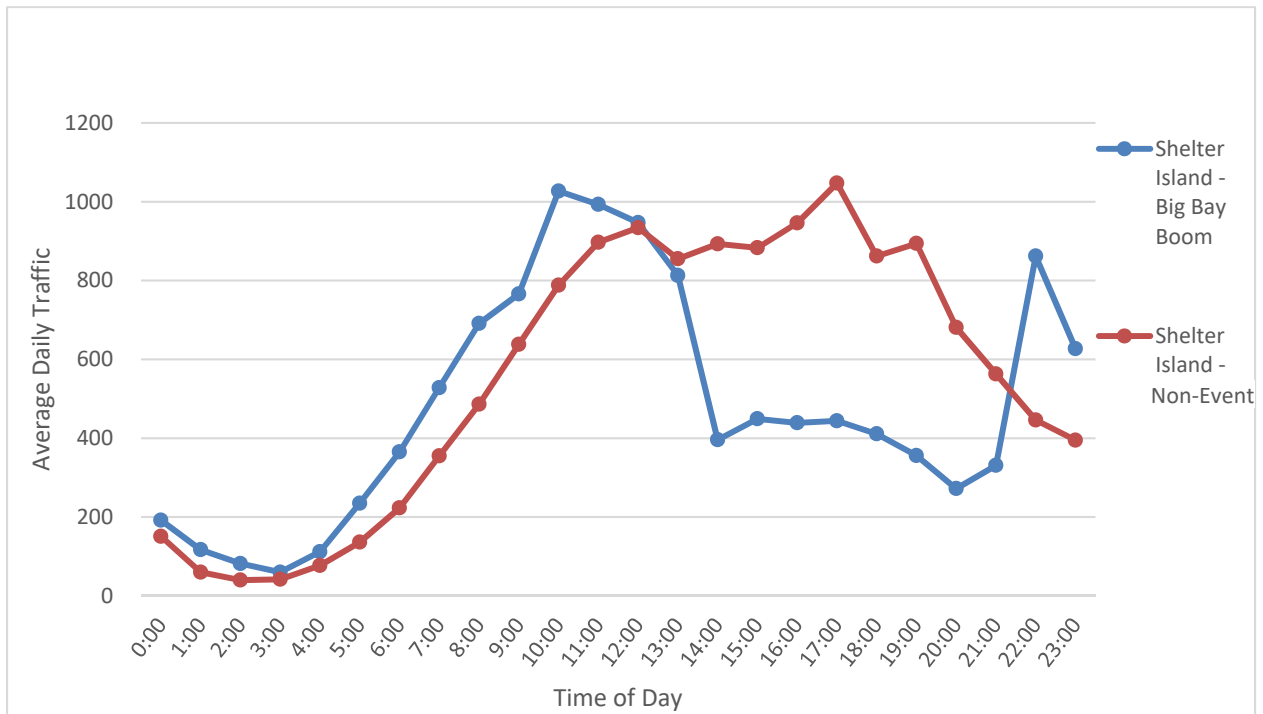
Roadway Segment	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Shelter Island Drive	Between Anchorage Lane and Roundabout	11,515	13,292	-13%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

As shown in Table 3.22, Shelter Island Drive experienced a decrease of 13% in average daily vehicular traffic during the Big Bay Boom event day. This could be potentially due to the fact that Shelter Island restricted access to vehicles starting in the early afternoon and into the night (approximately 2:00 PM to 9:00 PM).

Figure 3-16 compares the hourly traffic volumes, combined across all observed roadways, between the Big Bay Boom event day and non-event conditions, in Shelter Island.

Figure 3-16 Roadway Segment ADT During Big Bay Boom Event Day and Non-event Conditions – Shelter Island



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown, average daily traffic during the Big Bay Boom event day was consistently lower compared to non-event conditions between 2:00 PM and 9:00 PM, this is due to the Island being closed to vehicular traffic during this time on the Big Bay Boom event day.

Intersections

Table 3.23 displays pedestrian and bicycle volumes at a key intersection in Shelter Island during both the Big Bay Boom event and non-event conditions.

Table 3.23: Intersection Volumes (7:00 PM to 11:00 PM) – Shelter Island

Intersection	Event (Big Bay Boom)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Shelter Island Drive and 767 feet south of Anchorage Lane	-	7,456	427	-	536	29	-	1,291%	1,372%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015

As shown in Table 3.23, the crosswalk located in front of Pearson Deli experienced an increase of 1,291% in pedestrian activity and an increase of 1,372% in cyclist activity during the Big Bay Boom event. It should be noted that since these counts were taken at a crosswalk rather than a typical intersection, vehicular counts were not provided.

Parking

The available parking on Shelter Island filled up quickly on the Event Day and there was limited to no parking available on the island during the event. **Table 3.24** displays parking occupancy observed at different times throughout the afternoon during both the Big Bay Boom event day and non-event conditions.

Table 3.24: Parking Occupancy – Shelter Island

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM	
	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event
Shelter Island Parking Lots	Closed	40%	Closed	90%	Closed	90%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

During the first observation period, Shelter Island was closed by the Harbor Police, and interchangeable signs that read “SHELTER ISLAND CLOSED” were posted at the edge of Shelter Island, therefore parking occupancy counts could not be conducted. During non-event conditions, the parking lots ranged between 40% and 90% in capacity.



Shelter Island Closed. Source: Chen Ryan Associates, July 2015

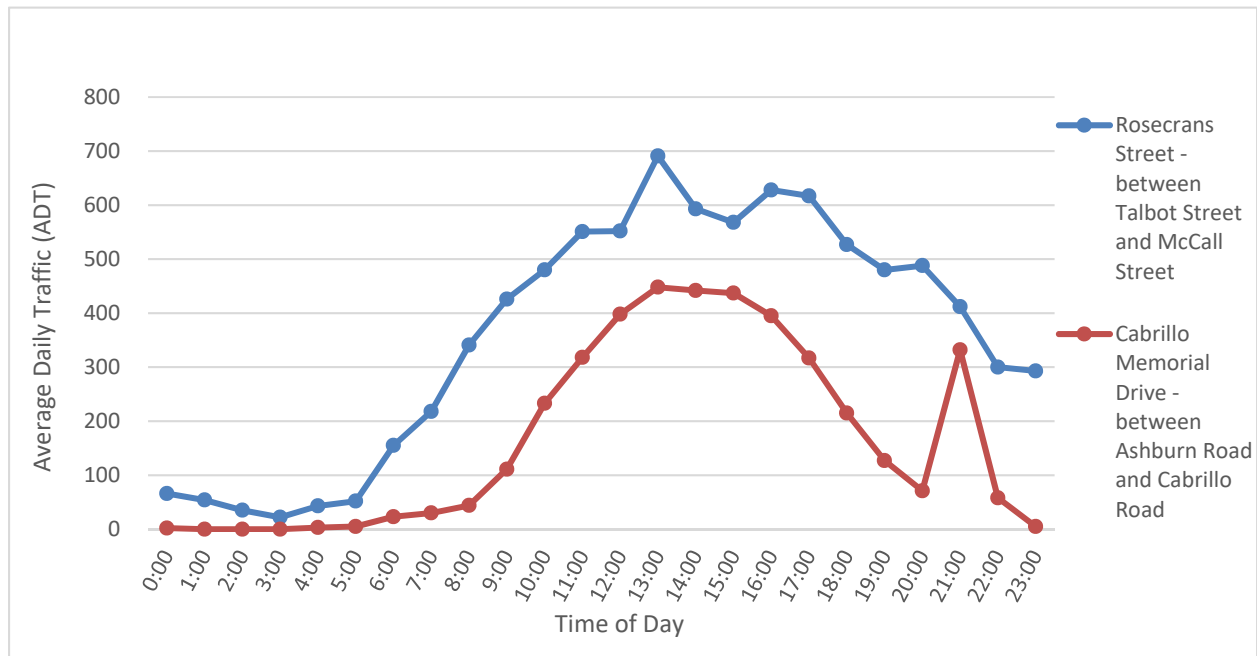
3.11 Point Loma & Cabrillo Point

Point Loma is a peninsula bordered on the west and south by the Pacific Ocean, the east by the San Diego Bay, and the north by the San Diego River. The hilly nature of Point Loma provides a clear view of the Bay. Cabrillo Point is a popular spot where large crowds congregate.

Roadway Segments

Figure 3-17 displays roadway segment daily traffic volumes, observed during the Big Bay Boom event, along the main roadways that provide vehicular access to the area.

Figure 3-17 Roadway Segment ADT on Big Bay Boom Event Day – Point Loma & Cabrillo Point



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown, Rosecrans Street between Talbot Street and McCall Street, as well as Cabrillo Memorial Drive between Ashburn Road and Cabrillo Road, experienced their peak demand between 1:00 PM and 2:00 PM. Cabrillo Memorial Drive also experienced an additional spike in traffic between 9:00 PM and 10:00 PM, just after the completion of the Big Bay Boom event.

Table 3.25 provides a comparison of the roadway segment ADTs within the Point Loma & Cabrillo Point area both during the Big Bay Boom event, as well as during non-event conditions.

Table 3.25: Roadway Segments ADT Comparisons – Point Loma & Cabrillo Point

Roadway Segment	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Rosecrans Street	Between Talbot Street and McCall Street	8,592	11,289	-24%

Roadway Segment	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Cabrillo Memorial Drive	Between Ashburn Road and Cabrillo Road	4,014	2,272	77%
Total Change for the Area ¹				-7%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015

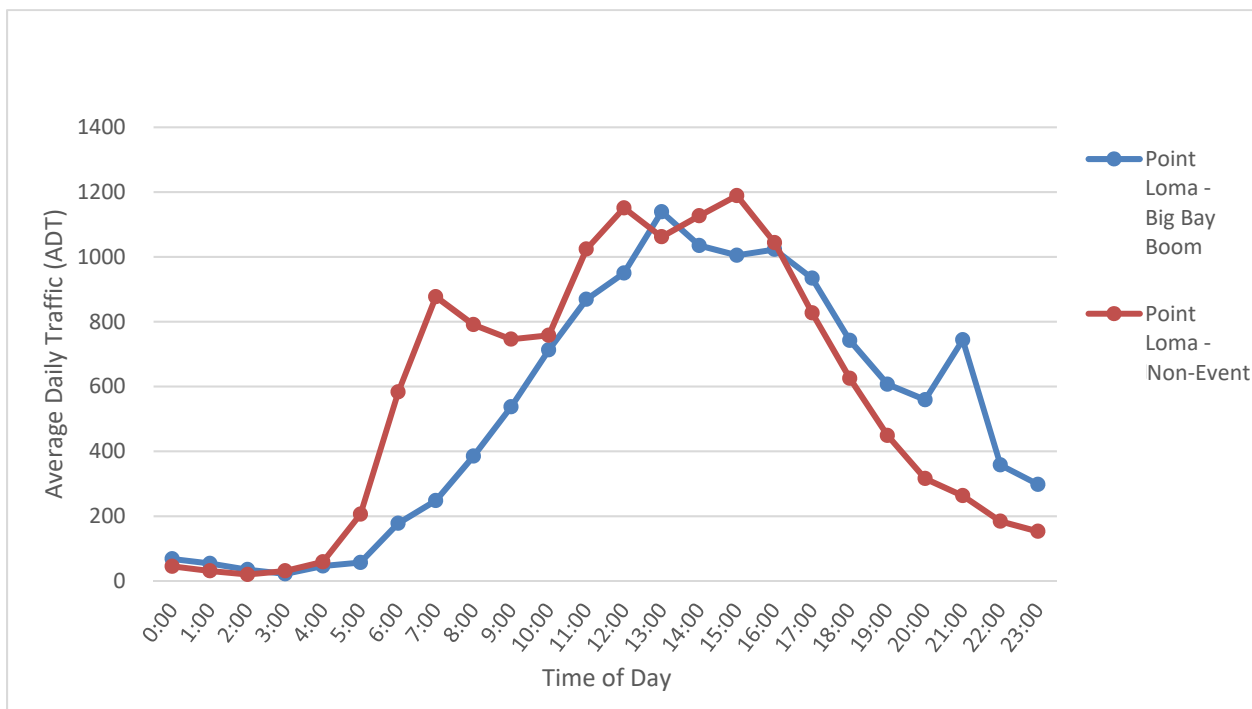
Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in Table 3.25, the Point Loma & Cabrillo Point area experienced a decrease of 7% in average daily vehicular traffic during the Big Bay Boom event day.

Figure 3-18 compares the hourly traffic volumes, combined across all observed roadways, between the Big Bay Boom event day and non-event conditions, in the Point Loma & Cabrillo Point area.

Figure 3-18 Roadway Segment ADT During Big Bay Boom Event Day and Non-event Conditions – Point Loma & Cabrillo Point



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown, average daily traffic during the Big Bay Boom event day was consistently lower compared to non-event conditions between 5:00 AM and 4:00 PM. However, average daily traffic was higher compared to non-event conditions beginning at about 4:00 PM, and there was a spike in traffic on Big Bay Boom event day between 8:00 PM and 9:00 PM, just prior to the Big Bay Boom event.

Intersections

Due to Cabrillo Point’s remote location, there is limited bicycle and pedestrian traffic that access the area from other communities. Therefore; no intersections were analyzed at this location.

Parking

No public parking lots were observed at this location because none exist within the study area, however on-street parking was available within the Point Loma & Cabrillo Point neighborhoods (about 70% occupied) just prior to the start of the Big Bay Boom event, around 8:30 PM.

3.13 Freeway Facilities

Freeway segment counts were obtained from the Caltrans PeMS database for segments of Interstate 8 and Interstate 5, each of which provide regional access to the Big Bay Boom viewing areas. **Table 3.26** displays freeway volumes for different freeway segments along Interstate 8 and Interstate 5.

Table 3.26: Freeway Facilities Volumes

Freeway	Freeway Segment	Direction	Event Day ADT	Event Day 9PM-12AM	Non-event ADT	Non-event 9PM-12AM	Change in Traffic Volume %	Change in Traffic Volume % 9PM-12AM
I-8	Between Sports Arena Boulevard and I-5 Junction	EB	49,502	11,718	59,283	7,350	-16%	59%
		WB	56,055	3,798	61,920	4,064	-9%	-7%
	Between I-5 Junction and Hotel Circle	EB	80,186	16,541	101,849	11,366	-21%	46%
		WB	88,552	5,050	104,700	5,529	-15%	-9%
I-5	Between Washington Street and Sassafras Street	NB	71,616	8,860	78,878	7,009	-9%	26%
		SB	65,701	11,607	73,370	7,432	-10%	56%
	Between Sassafras Street and Front Street	NB	88,339	8,281	99,118	6,609	-11%	25%
		SB	69,298	16,633	78,335	10,343	-12%	61%
Total Change for the Area¹							-13%	38%

Source: Caltrans PeMS September 2015. Chen Ryan Associates, September 2015.

Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in the table above, freeway volumes experienced an average decrease of 13% in average vehicular traffic during the Big Bay Boom event day potentially due to fewer community members accessing restaurant and commercial establishments in Downtown San Diego due to the July 4th holiday, and may not be directly related to the actual event. However, after the event, freeway volumes experienced an average increase of 38% in average vehicular traffic.

3.14 Public Transit – San Diego Trolley

The Port of San Diego, in collaboration with the local public transit service provider Metropolitan Transit Systems (MTS), encouraged people to abstain from driving to the Big Bay Boom event and instead utilize public transit (Trolley) to access the viewing locations. Transit ridership data at each of the Trolley stations was collected to understand changes in transit ridership associated with the event. Since MTS does not monitor daily trolley ridership by station location, total system-wide ticket sales were obtained from MTS in lieu of ticket sales by specific station for previous July 4th holidays, as well as typical weekend ridership.

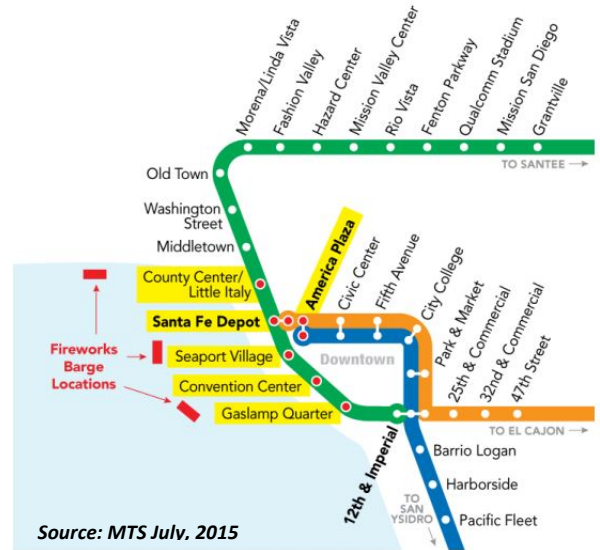


Table 3.27 displays system-wide trolley ticket sales during a previous 4th of July holiday, as well as during a typical weekday and a typical weekend day. It is important to note that data for July 4, 2014 was provided by MTS, however, that information was considered an inaccurate representation of typical trolley ridership during 4th of July due to a baseball game taking place on that day.

Table 3.27: System-Wide Trolley Ticket Sales During Previous 4th of July Holiday, Typical Weekday and Typical Weekend

Type of Ticket	Thursday, July 4, 2013	Typical Weekday	Typical Weekend	Change in Ticket Sales Weekday	Change in Ticket Sales Weekend
Senior/Disabled One-Way	2,094	2,501	2,167	-16%	-3%
Adult One-Way	9,963	7,624	6,949	31%	43%
Day Pass	9,145	7,560	6,051	21%	51%
Total¹	21,202	17,685	15,167	20%	40%

Source: MTS June, 2015. Chen Ryan Associates, September 2015

Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in the table above, ticket sales during Thursday, July 4, 2013 experienced an increase of 20% in ticket sales when compared to typical weekday ticket sales and an increase of 40% in ticket sales when compared to a typical weekend day. It is important to note that on major holidays, MTS offers the “Friends Ride Free” promotion, which allows two passengers to ride on one valid fare of any type. This aforementioned promotion could contribute to an increase in ticket sales during the 4th of July.

4.0 Imperial Beach - 4th of July Fireworks Display

The City of Imperial Beach is the southernmost beach city on the West Coast of the United States. It is located in the South Bay area of San Diego County. The Imperial Beach 4th of July fireworks display was viewed by thousands of people from the beach. The Imperial Beach 4th of July Fireworks display is not officially part of the Big Bay Boom. However, since the event takes place on the same day and approximately the same time as the Big Bay Boom, it is more similar to a Fourth of July Event than a non-Fourth of July, or Other, Event.



Imperial Beach on the 4th of July. Source: Chen Ryan Associates, July 2015

4.1 Data Collection

Vehicular count data was collected at a total of three (3) key roadway segments accessing or adjacent to the event location. Key study roadway segments were selected based on a review of the roadway network surrounding proximity to the event and the level of access to the event site provided by the roadway. Vehicular roadway counts were conducted during the entire day, midnight to midnight, and provide an hour by hour summary of vehicular traffic entering and exiting the event location.

Pedestrian and bicycle counts were collected at a total of three (3) key study intersections providing access to the event.

In addition to roadway segment and pedestrian and bicycle counts, parking occupancy counts were conducted at four (4) parking facilities, that either directly serve the viewing areas or are adjacent to (within a quarter of a mile). Parking counts were counted during the afternoon and evening (at 1 PM, 3 PM, 5 PM and 7 PM) to determine whether and when they reached capacity.

Table 4.1 displays roadway segments, intersections, and parking lots anticipated to be most impacted due to proximity to the event location.

Table 4.1: Imperial Beach - Fourth of July Fireworks Display - Transportation Data Collection

View Location	Roadway Segment Counts	Bike and Pedestrian Counts	Parking Lots
Imperial Beach – 4 th of July Fireworks Display	<ul style="list-style-type: none"> • Palm Avenue – between 7th Avenue and Rainbow Drive • Imperial Beach Boulevard – between Connecticut Street and 4th Street • Seacoast Drive – between Elkwood Avenue and Daisy Avenue 	<ul style="list-style-type: none"> • Palm Avenue and Seacoast Drive • Evergreen Avenue and Seacoast Drive • Imperial Beach Boulevard and Seacoast Drive 	<ul style="list-style-type: none"> • Daisy Avenue Parking Lot • Elm Avenue Parking Lot • Seacoast Drive Parking Lot • Imperial Beach Boulevard Parking Lot

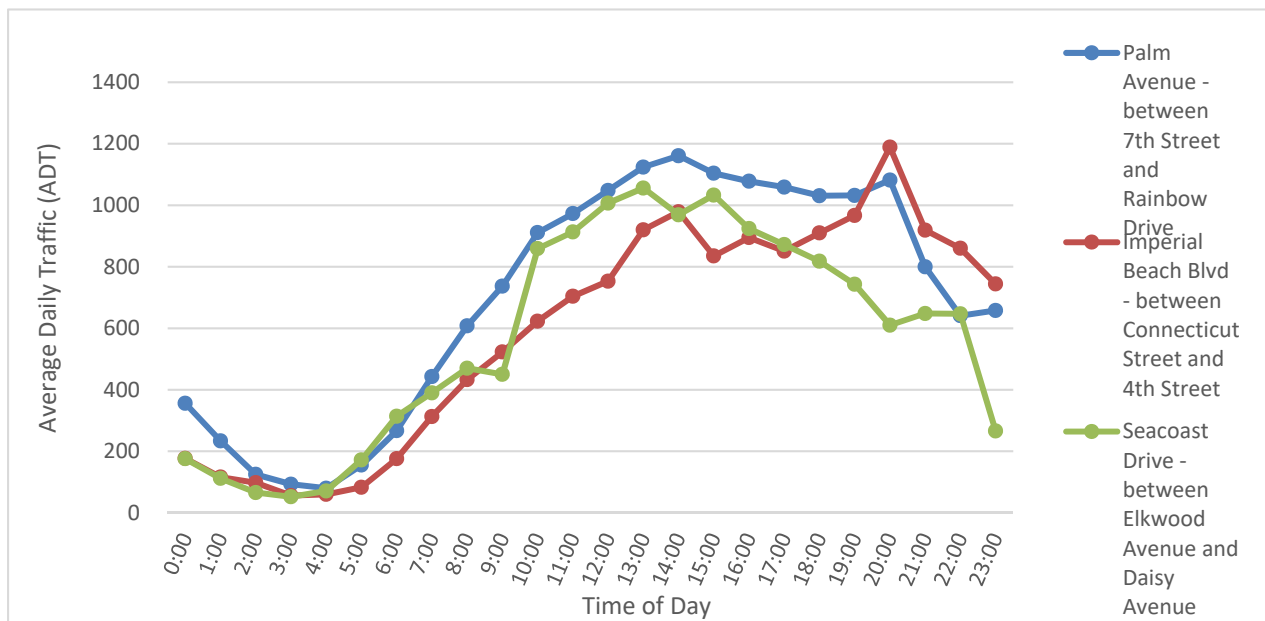
Source: Chen Ryan Associates, July-August 2015

4.2 Imperial Beach Analysis

Roadway Segments

Figure 4-1 displays roadway segment daily traffic volumes, observed during the event day, along the main roadways that provide vehicular access to the area.

Figure 4-1 Roadway Segment ADT on the Event Day – Imperial Beach



Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown in Figure 4-1, the highest traffic volumes on the majority of roadways were experienced between 8:00 PM and 9:00 PM just prior to the start of the event. High traffic volumes along the majority of roadways persisted for two hours after the event between 9:00 PM and 11:00 PM, as community members vacated the viewing areas.



Seacoast Drive. Source: Chen Ryan Associates, July 2015.

Table 4.2 provides a comparison of the roadway segment ADTs within the Imperial Beach area both during the event day, as well as during non-event conditions.

Table 4.2: Roadway Segments ADT Comparisons – Imperial Beach

Roadway Segment	Segment	ADT		
		Event Day	Non-event (Aug. 22)	Change in Volume %
Palm Avenue	Between 7 th Street and Rainbow Drive	16,800	14,693	14%
Imperial Beach Boulevard	Between Connecticut Street and 4 th Street	14,184	10,762	32%
Seacoast Drive	Between Elkwood Avenue and Daisy Avenue	13,638	7,121	92%
Total Change for the Area ¹				37%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015

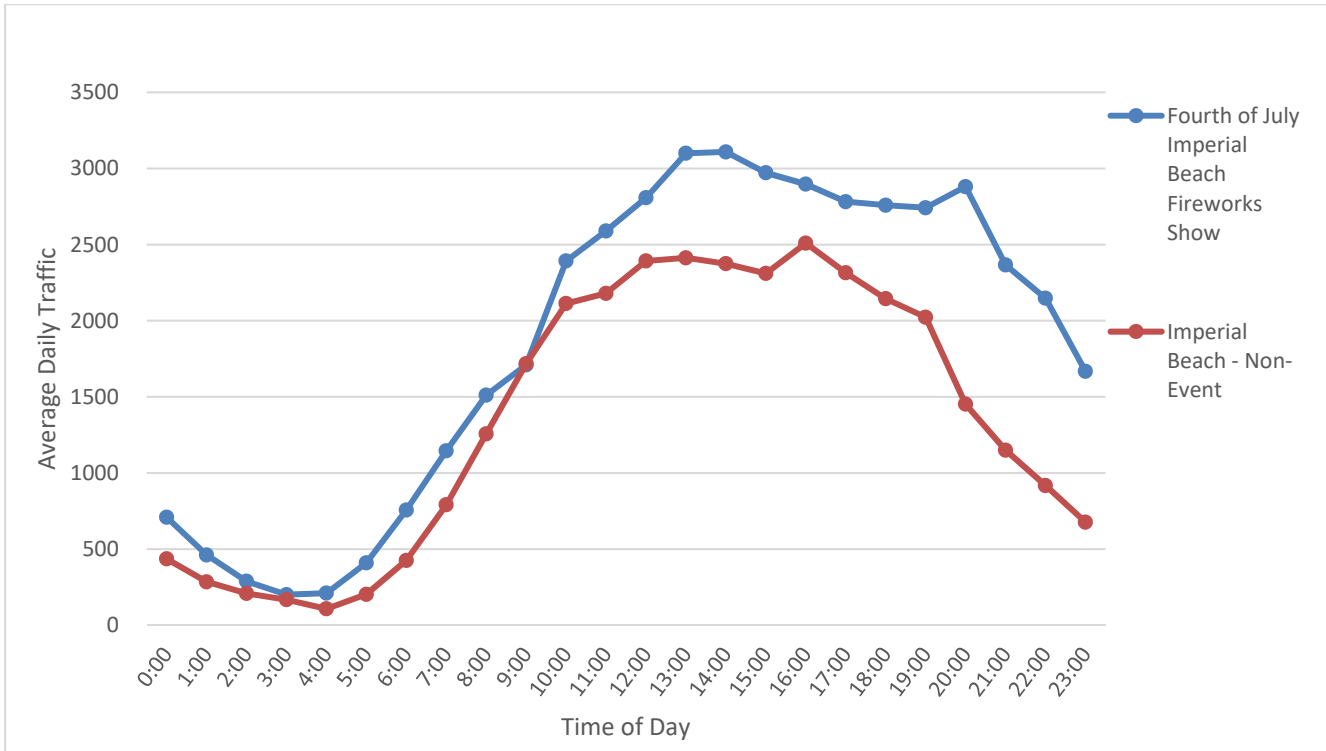
Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in the table above, the Imperial Beach area experienced an average increase of 37% in average daily vehicular traffic during the event day.

Figure 4-2 compares hourly traffic volumes, combined across all observed roadways, between the event day and non-event conditions, in the Imperial Beach area.

Figure 4-2 Roadway Segment ADT during Event Day and Non-event Conditions – Imperial Beach



Source: PTD, July-August 2015. Chen Ryan Associates, September 2015.

As shown, the traffic volumes during the event day were consistently higher throughout the day compared to non-event conditions.

Intersections

Table 4.3 displays vehicular, pedestrian, and bicyclist volumes at key intersections in the Imperial Beach area during both event and non-event conditions.

Table 4.3: Intersection Volumes (7:00 PM to 11:00 PM) - Imperial Beach

Intersection	Event (IB 4th of July Fireworks)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Palm Avenue and Seacoast Drive	1,822	6,171	181	1,487	317	37	23%	1,847%	389%
Evergreen Avenue and Seacoast Drive	1,860	8,463	357	1,258	510	43	48%	1,559%	730%
Imperial Beach Boulevard and Seacoast Drive	2,228	6,610	215	1,314	188	31	70%	3,416%	594%
Total Change for the Area¹							46%	1,993%	578%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in Table 4.3, the Imperial Beach area experienced an average increase of 46% in vehicular traffic, an average increase of 1,993% in pedestrian activity, and an average increase of 578% in bicyclist activity during the event.

Parking

Imperial Beach features four parking lots with low capacity and reached their full capacity quickly. People tended to park on adjacent residential streets, reaching out as far east as 5th Street, approximately half a mile away from the Pier Plaza. **Table 4.4** displays parking occupancy observed at different times during the afternoon.

Table 4.4: Parking Occupancy – Imperial Beach

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7 PM to 8 PM	
	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event	Event Day	Non-event
Daisy Avenue Parking Lot	100%	95%	100%	100%	100%	100%	100%	100%
Elm Avenue Parking Lot	Closed	99%	Closed	100%	Closed	95%	Closed	95%
Seacoast Drive Parking Lot	100%	80%	100%	90%	100%	95%	100%	100%
Imperial Beach Boulevard Parking Lot	100%	100%	100%	100%	100%	70%	100%	100%

Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown, all of the available parking lots observed were at full capacity (100%) during the four observation periods during the event day and between 70% and 100% in capacity during non-event conditions.

5.0 End of World War II 70th Anniversary Event (Other Event)

The End of WWII 70th Anniversary was held on the flight deck of the USS Midway Museum, located in the North Embarcadero area in Downtown San Diego, with the purpose of honoring WWII veterans. The event took place on Saturday, August 15, 2015, and consisted of a live musical show, a fireworks display, and a dance with the event commencement and closure between 6:00 PM and 10:00 PM, respectively. Data was collected during this event in order to compare potential traffic impacts associated with a Fourth of July event (such as the Big Bay Boom and Imperial Beach fireworks displays) and a non-Fourth of July, or Other, event (End of WWII 70th Anniversary fireworks display). It should be noted that even though this did not require dictionary action by District, it was selected for evaluation since it was a publicly advertised fireworks show that was open to the public. Because this show was advertised and fully open to the public it was assumed that this would be a worst-case scenario as opposed to studying a fireworks show associated with a private event (ie. Our Lady of Rosary Church Annual Procession, a Symphony Summer Pops Concert Event, ect.).

FREE for San Diegans **San Diego Residents** 70TH ANNIVERSARY EDITION
SATURDAY, AUGUST 15, 2015 ONBOARD THE FLIGHT DECK OF THE USS MIDWAY MUSEUM **FREE**

EXTRA!

70th Anniversary of the End of WWII

Mayor Kevin Faulconer invites San Diegans
to a celebration of a lifetime in honor of the 70th Anniversary of the End of WWII

August 15, 2015
Onboard the Flight Deck of the USS Midway

Admission is Free!

Celebrating on Broadway
August 14, 1945, the end of the war.

6pm Doors Open
7pm-8pm Show
Victory Fireworks
8pm-10pm Dance

Space is limited. Admission is first come first served.

Meet World War II Veterans In Person
Relive the joy that swept the city when Peace was announced 70 years ago!

Watch, **Thanks for the Memories: Bob Hope and His All-Star Pacific Tour, Live Musical Review**
An unforgettable evening featuring: Bob Hope, Judy Garland, The Andrews Sisters, Betty Grable and More!
Plus dance the night away to the nostalgic sounds of SWING!

USS Midway MUSEUM
(619) 544-9600 • www.midway.org
910 N. Harbor Dr. • San Diego, CA 92101

Sponsors: Island credit union, Cox, Southwest, Union-Tribune, etc.

5.1 Data Collection

Vehicular count data was collected at a total of five (5) key roadway segments across the two (2) areas adjacent to the event location. Key study roadway segments were selected based on a review of the roadway network surrounding proximity to the event and the level of access to the event site provided by the roadway. Vehicular roadway counts were conducted during the entire day, midnight to midnight, and provide an hour by hour summary of vehicular traffic entering and exiting the event location.

Pedestrian and bicycle counts were collected at a total of two (2) key study intersections providing access to the event.

In addition to roadway segment and pedestrian and bicycle counts, parking occupancy counts were conducted at five (5) parking facilities adjacent to (within a quarter of a mile) the event location during the afternoon and evening (between 1PM and 8PM) to determine whether and when they reached

capacity. Parking occupancy data was also obtained from the parking management companies who operate the paid public parking facilities in the study area.

Table 5.1 displays roadway segments, intersections, and parking lots anticipated to be most impacted due to proximity to the event location.

Table 5.1: End of WWII 70th Anniversary – Transportation Data Collection

Event	Roadway Segment Counts	Bike and Ped Counts	Parking Lots
70 th Anniversary End of WWII	<ul style="list-style-type: none"> Harbor Drive – between Ash Street and Broadway Harbor Drive – between Broadway and G Street Broadway – between Harbor Drive and Pacific Highway Harbor Drive – between G Street and Pacific Highway Harbor Drive – between Kettner Blvd and Market Street 	<ul style="list-style-type: none"> Broadway Embarcadero Entrance to Tuna Park Parking Lot 	<ul style="list-style-type: none"> Cruise Ship Parking Lot (NE corner of Broadway and Harbor) Navy Pier Parking Lot G Street Pier Parking Lot Seaport Village Embarcadero Parking Lot South Embarcadero – Surface Parking Lots

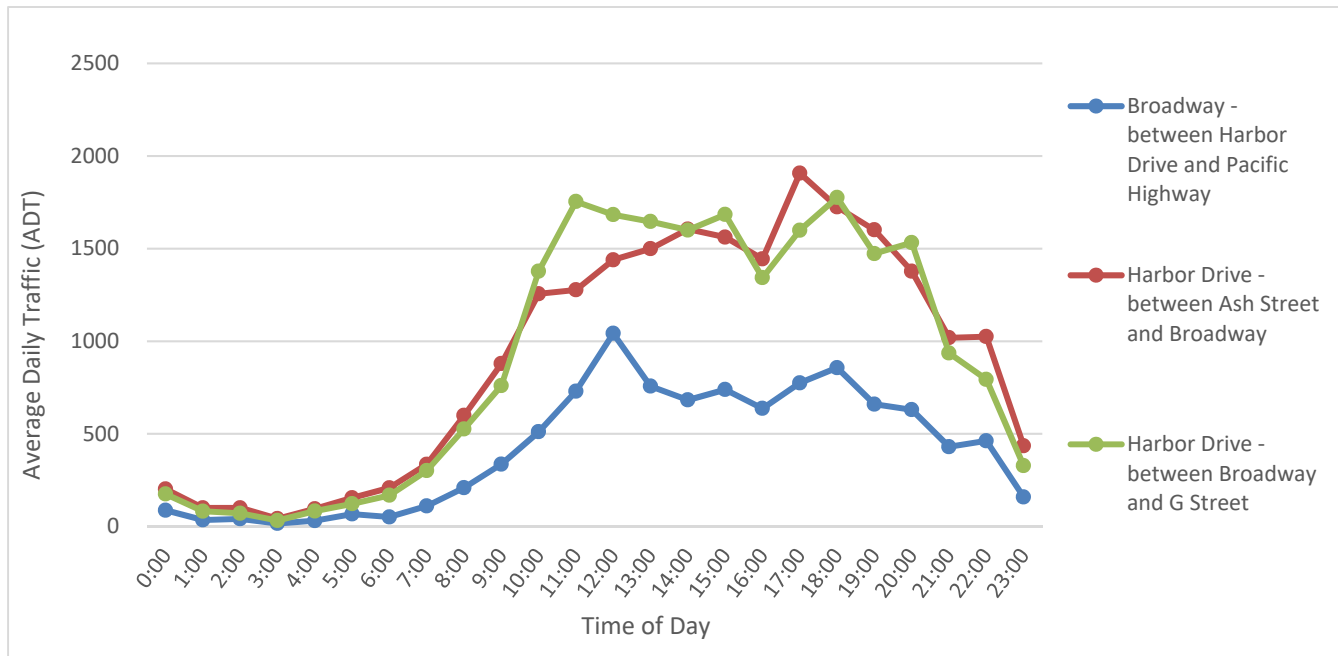
Source: PTD, August 2015. Chen Ryan Associates, August 2015.

5.2 North Embarcadero

Roadway Segments

Figure 5-1 displays roadway segment daily traffic volumes observed on August 15 along the main roadways providing vehicular access to the event.

Figure 5-1 Roadway Segment ADT on Other Event Day – North Embarcadero



Source: PTD, August 2015. Chen Ryan Associates, September 2015.

As shown, the highest traffic volumes for the majority of roads was observed between 5:00 PM and 6:00 PM just prior to the start of the End of WWII 70th Anniversary event. Substantial traffic volumes were also maintained for approximately three hours after the event, from 9:00 PM to midnight.

Table 5.2 provides a comparison of the roadway segment ADTs in the North Embarcadero area during both the End of WWII 70th Anniversary event (Other event) held at the USS Midway and non-event conditions.

Table 5.2: Roadway Segments ADT Comparisons – North Embarcadero

Roadway Segment	Segment	ADT		
		Other Event Day	Non-event (Aug. 22)	Change in Volume %
Harbor Drive	Between Ash Street and Broadway	21,886	18,526	18%
	Between Broadway and G Street	21,846	17,115	28%
Broadway	Between Harbor Drive and Pacific Highway	10,055	8,639	16%
Total Change for the Area¹				21%

Source: PTD, August 2015. Chen Ryan Associates, September 2015.

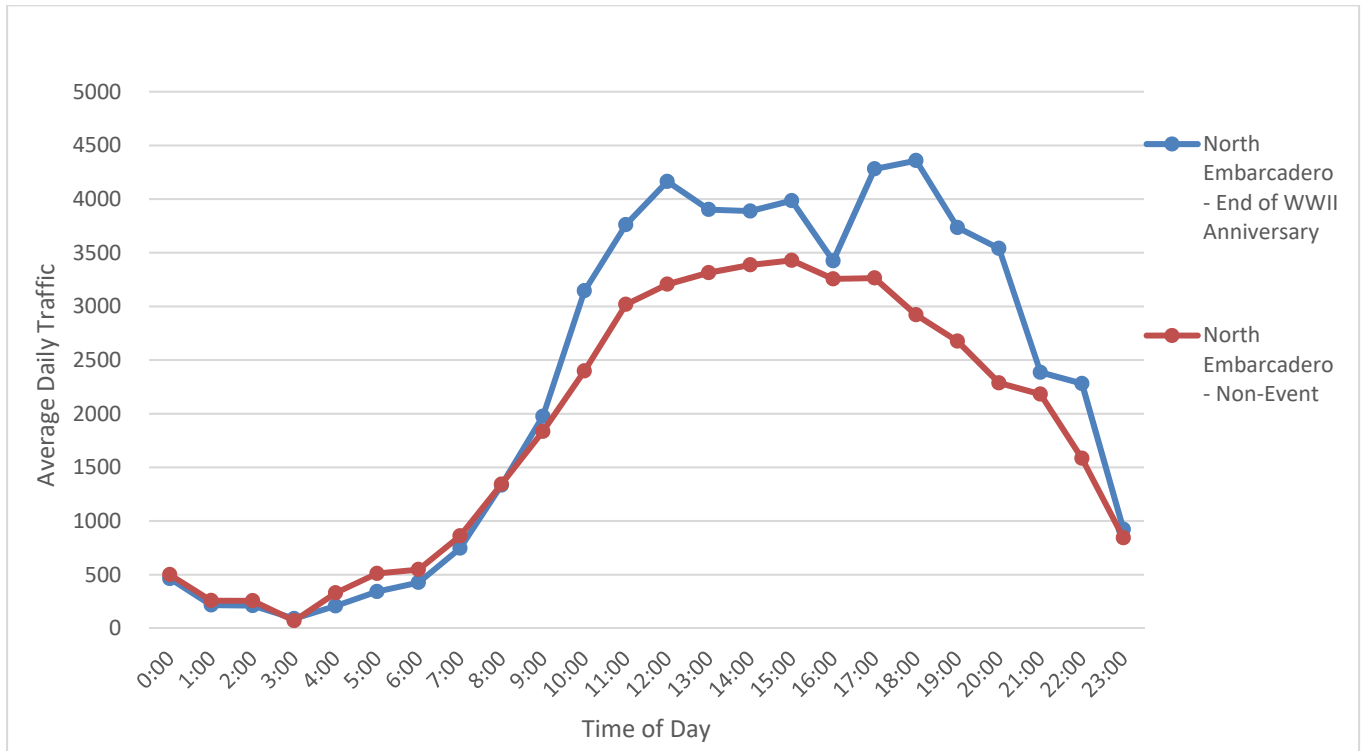
Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in the table above, the North Embarcadero area experienced an average increase of 21% in average daily vehicular traffic during the day of the event (August 15, 2015).

Figure 5-2 displays roadway segment daily traffic volumes observed during the event day (August 15, 2015), as well as under non-event conditions, in the North Embarcadero area.

Figure 5-2 Roadway Segment ADT During Other Event Day and Non-event Conditions – North Embarcadero Area



Source: PTD, August 2015. Chen Ryan Associates, September 2015.

As shown, the traffic volumes during the Other event day (August 15, 2015) was consistently higher compared to a typical summer Saturday between 9:00 AM and midnight.

Intersections

Table 5.3 displays vehicular, pedestrian, and bicyclist volumes at key intersections in the North Embarcadero area during both the End of WWII 70th Anniversary event and non-event conditions. Both study locations are located on bike/pedestrian facilities, therefore only bicycle and pedestrian counts were conducted.

Table 5.3: Intersection Volumes (5:00 PM to 7:00 PM and 9:00 PM to 11:00 PM) - North Embarcadero

Intersection	Other Event (EWWIIA)			Non-event (Aug. 22)			Change in Volume %		
	Auto	Peds	Bikes	Auto	Peds	Bikes	Auto	Peds	Bikes
Harbor Drive and Broadway (Embarcadero)	-	3,198	354	-	2,257	300	-	42%	18%
Harbor Drive and Tuna Lane	-	3,371	335	-	2,631	310	-	28%	8%
Total Change for the Area ¹							-	34%	13%

Source: PTD, July 2015. Chen Ryan Associates, August 2015.

Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in Table 5.3, the North Embarcadero area experienced an average increase of 34% in pedestrian activity and an average increase of 13% in bicyclist activity during the End of WWII 70th Anniversary event.

Parking

Parking at the North Embarcadero area is available in various public parking lots and along streets such as Harbor Drive to Pacific Highway. **Table 5.4** displays parking occupancy observed at different times during the afternoon during both the event day (August 15, 2015) and a typical summer Saturday.

Table 5.4: Parking Occupancy – North Embarcadero

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7PM to 8PM	
	Other Event Day	Non-event	Other Event Day	Non-event	Other Event Day	Non-event	Other Event Day	Non-event
Harbor Drive Surface Parking (in front of Solar Turbines)	100%	100%	100%	80%	100%	100%	100%	95%
Harbor Drive Surface Parking (in front of County Admin. Center)	100%	100%	100%	100%	100%	100%	100%	90%
G Street Pier Parking Lot	100%	100%	100%	100%	100%	100%	100%	80%
Navy Pier Parking Lot	100%	100%	100%	100%	100%	100%	100%	100%

Source: PTD, July-August 2015. Chen Ryan Associates, July-August 2015.

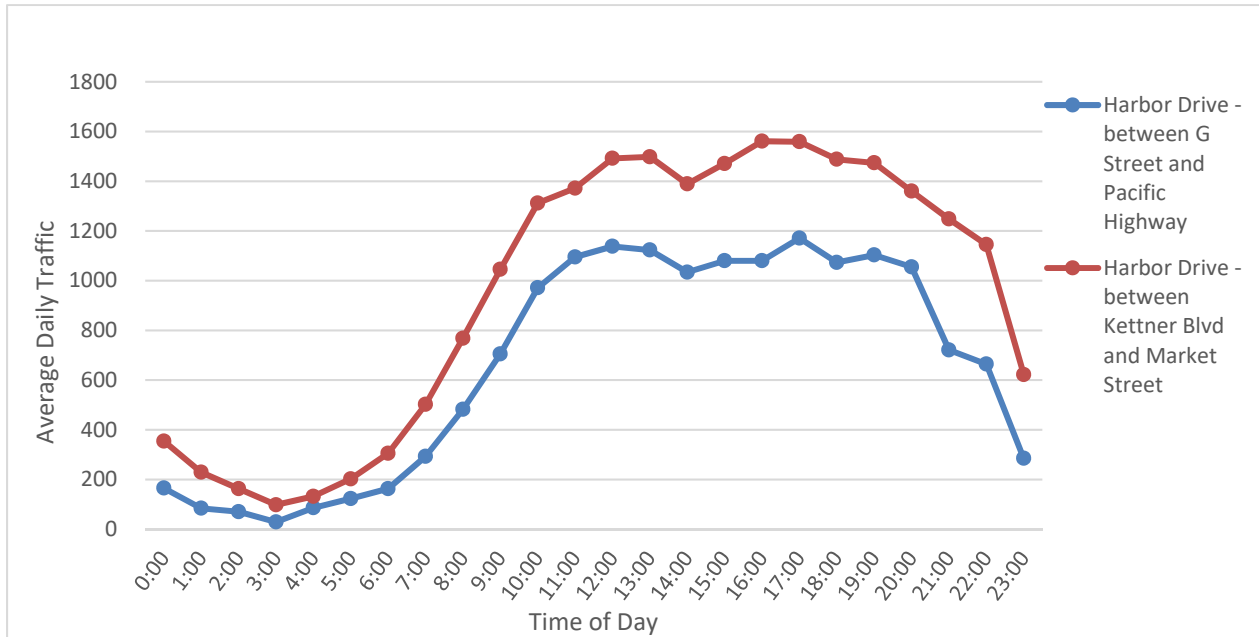
As shown in the table above, all of the parking lots observed remained at full capacity (100%) during the four observation periods during the Other event, and ranged between 80% and 100% of capacity during non-event conditions.

5.3 South Embarcadero & Seaport Village

Roadway Segments

Figure 5-3 displays roadway segment daily traffic volumes observed during the event day (August 15, 2015) along the main roadways that provide vehicular access to the area.

Figure 5-3 Roadway Segments ADT on Other Event Day – South Embarcadero & Seaport Village



Source: PTD, August 2015. Chen Ryan Associates, September 2015.

As shown, the highest traffic volumes during the Other event day (August 15, 2015) were observed between 4:00 PM and 5:00 PM just prior to the start of the End of WWII 70th Anniversary event.

Table 5.5 provides a comparison of roadway segment ADTs within the South Embarcadero & Seaport Village both during the End of WWII 70th Anniversary event, as well as during non-event conditions.

Table 5.5: Roadway Segments ADT Comparisons – South Embarcadero & Seaport Village

Roadway	Segment	ADT		
		Other Event Day	Non-event (Aug. 22)	Change in Volume %
Harbor Drive	Between G Street and Pacific Highway	15,793	13,912	14%
	Between Kettner Boulevard and Market Street	22,789	21,985	4%
Total Change for the Area ¹				7%

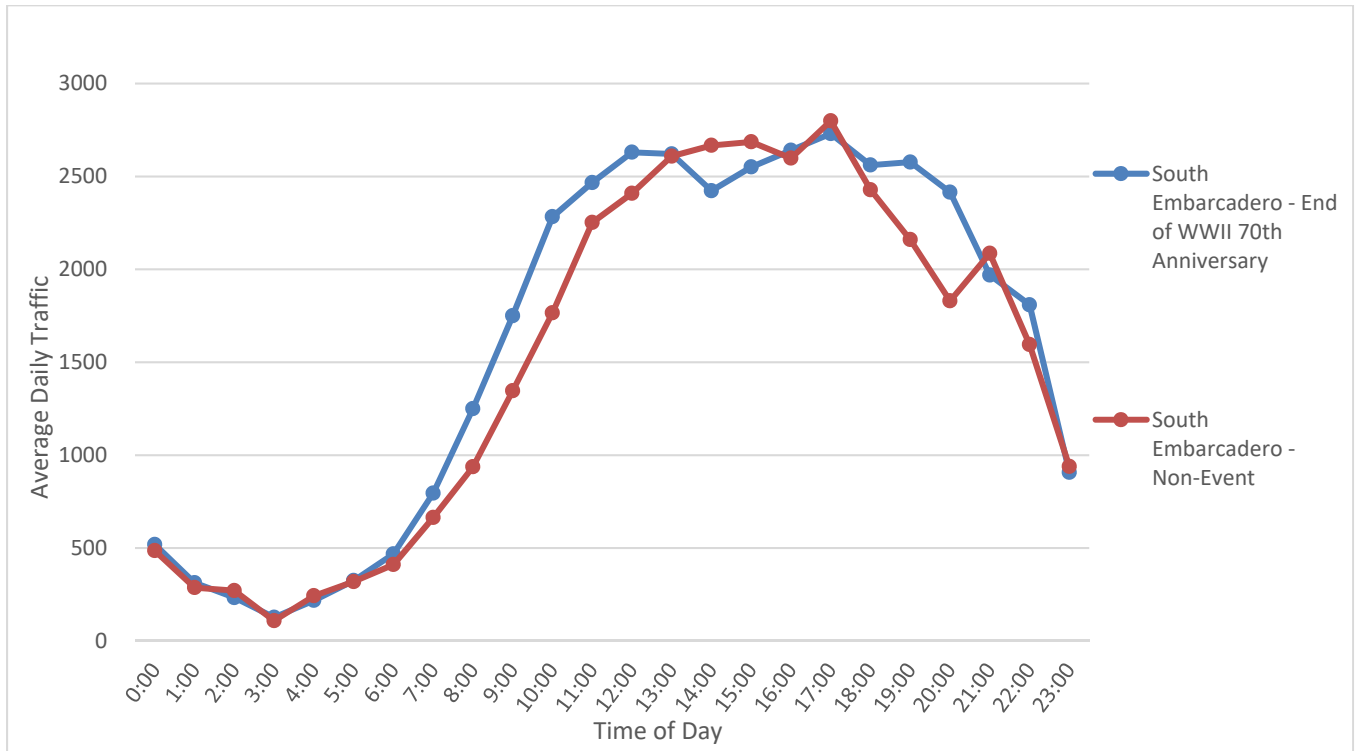
Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in Table 5.5, Harbor Drive in the South Embarcadero & Seaport Village area experienced an average increase of 7% in vehicular traffic during the Other event day.

Figure 5-4 displays roadway segment daily traffic volumes observed during the Other event day (August 15, 2015), as well as during non-event conditions, in the South Embarcadero & Seaport Village area.

Figure 5-4 Roadway Segment ADT Other Event Day and Non-event Conditions – South Embarcadero & Seaport Village Area



Source: PTD, August 2015. Chen Ryan Associates, September 2015.

As shown, average daily traffic on August 15 was consistently slightly higher compared to non-event conditions between 6:00 AM and 12:00 PM. This increase most likely represents patrons accessing the additional WWII celebratory activities around the site during the day. Additionally, there is an increase in vehicular traffic between 6:00 PM and 9:00 PM, which is most likely associated with patrons accessing the End of WWII 70th Anniversary (study event), which occurred between 6:00 PM and 10:00 PM.

Intersections

It was assumed that patrons coming in from this location would park in either Seaport Village or on the G Street Mole and would use the Embarcadero to access the site. Therefore; no intersections were analyzed at this location.

Parking

Parking was available at Seaport Village and on the South Embarcadero Parking Lots. **Table 5.6** displays parking occupancy observed at different times during the afternoon during both the event day (August 15, 2015) and non-event conditions.

Table 5.6: Parking Occupancy – South Embarcadero & Seaport Village

Parking Lots	1 PM to 2 PM		3 PM to 4 PM		5 PM to 6 PM		7 PM to 8 PM	
	Other Event Day	Non-event	Other Event Day	Non-event	Other Event Day	Non-event	Other Event Day	Non-event
Seaport Village Parking Lot	100%	100%	100%	100%	100%	100%	100%	100%
Convention Center Parking Lot	85%	100%	85%	100%	85%	100%	85%	100%

Source: PTD, July 2015. Chen Ryan Associates, July 2015.

As shown in Table 5.6, the Seaport Village parking lot was observed at full capacity (100%) during the four observation periods, both during the event and under non-event conditions, while the Convention Center Parking Lot was observed at 85% in capacity during the Other event day and at full capacity (100%) under non-event conditions.

5.4 Freeway Facilities

Freeway segment counts were obtained from the Caltrans PeMS database for the segments of Interstate 5, which provides regional access to the viewing areas. Table 5.7 displays freeway volumes for freeway segments along Interstate 5.

Table 5.7: Freeway Facilities Volumes

Freeway	Freeway Segment	Direction	Other Event Day ADT	Non-event ADT	Change in Traffic Volume %
I-5	Between Washington Street and Sassafras Street	NB	79,197	78,878	0.4%
		SB	73,029	73,370	-0.5%
	Between Sassafras Street and Front Street	NB	100,156	99,118	1.0%
		SB	78,325	78,335	0.0%
Total Change in the Area ¹					0.3%

Source: Chen Ryan Associates, July 2015.

Note:

¹Total change for the area is based on the total of the Event condition volumes compared to the total of the Non-event condition volumes.

As shown in the table above, freeway volumes increased by about 0.3% during the Other event. This increase in traffic may not be directly related to the actual event.

6.0 Findings and Conclusions

This chapter provides a summary of the observed transportation and parking demand changes associated with both the sample firework display events (Fourth of July, and Other fireworks display events). The observed changes were then correlated with the locations of the new display events included in the Proposed Project. Based on the magnitude of these changes, potential transportation related impacts associated with proposed project events were qualitatively identified, and corresponding mitigation measures are recommended.

6.1 Changes Associated with the Fourth of July Event

Table 6.1 summarizes the total change in vehicular, pedestrian, and bicycle volumes observed during the Fourth of July Event (Big Bay Boom), at each viewing location.

Table 6.1: Summary of Change in Vehicular, Pedestrian, and Bicycle Volumes – Fourth of July Event

Location	Change in Vehicular Volume (%)	Change in Pedestrian Volume (%)	Change in Bicycle Volume (%)
North Embarcadero	-2%	480%	224%
South Embarcadero & Seaport Village	4%	390%	926%
Coronado Ferry Landing	-8%	559%	1,915%
Harbor Island	-9%	1,057%	127%
Spanish Landing Park	3%	-	-
Liberty Station	-15%	532%	820%
America's Cup Harbor	11%	783%	508%
Shelter Island	-13%	1,291%	1,372%
Point Loma & Cabrillo Point	-7%	-	-

Source: *PTD, July-August 2015. Chen Ryan Associates, September 2015*

As shown, the changes in vehicular traffic on the event day is negligible in most locations (ranging between -15% to 311% total change). However, the changes in bicycle and pedestrian activity are very significant (ranging between 127% to 1,915% total change).

Table 6.2 summarizes the total change in vehicular, pedestrian, and bicycle volumes observed during the Imperial Beach 4th of July Event.

Table 6.2: Summary of Change in Vehicular, Pedestrian, and Bicycle Volumes – Imperial Beach 4th of July Event

Location	Change in Vehicular Volume (%)	Change in Pedestrian Volume (%)	Change in Bicycle Volume (%)
Imperial Beach	37%	1,993%	578%

Source: *PTD, July-August 2015. Chen Ryan Associates, September 2015*

As shown, the changes in vehicular traffic on the event day increases 37%. However, the changes in bicycle and pedestrian activity are very significant (ranging between 578% to 1,993% total change).

6.2 Changes Associated with Other Events

Table 6.3 summarizes the total change in vehicular, pedestrian, and bicycle volumes observed during the Other Event (End of WWII 70th Anniversary), at each viewing location.

Table 6.3: Summary of Change in Vehicular, Pedestrian, and Bicycle Volumes – Other Event

Location	Change in Vehicular Volume (%)	Change in Pedestrian Volume (%)	Change in Bicycle Volume (%)
North Embarcadero	21%	34%	13%
South Embarcadero & Seaport Village	7%	-	-

Source: PTD, July-August 2015. Chen Ryan Associates, September 2015

As shown, there was a slight increase in vehicular traffic associated with the Other Event (between 7% to 21% total change). There was also a slight increase in pedestrian and bicycle activity associated with the event (34% and 13%, respectively).

6.3 Transportation and Parking Related Impacts

This section summarizes the potential parking and transportation related impacts associated the firework display events included in the proposed project and proposes mitigation, as needed.

New Events Occurring on the Fourth of July

Vehicular Traffic – As noted above, the change in vehicular traffic at most sample locations was negligible on the event day. However, higher traffic volumes were typically observed before and after the sample event. Therefore, it is also likely that additional traffic congestion and delays would also occur along roadways and at intersections that provide access to the new Proposed Project event locations. This additional congestion, both before and after the event could potentially result in temporary traffic related impacts.

Higher traffic volumes were also observed on the freeway facilities that serve the sample event viewing areas between 9:00 PM and Midnight. Traffic congestion was observed on the freeway facilities serving the Big Bay Boom viewing areas up to three hours after the conclusion of the event. Therefore, Proposed Project event occurring on the Fourth of July will also likely generate additional traffic congestion on freeway facilities serving the new event locations, resulting in temporary traffic related impacts.

Pedestrian Activity – Increases in pedestrian activity were observed both before and after the sample Fourth of July events. Some locations observed up to a 1,993% increase in pedestrian traffic, crossing intersections adjacent to or accessing the event viewing site. Since these pedestrian volumes are not typical, the intersections and pedestrian facilities adjacent to or accessing the new Proposed Project locations may not be designed to accommodate this level of pedestrian traffic. Therefore, the new Proposed Project events occurring on the Fourth of July may potentially create temporary pedestrian-related impacts to pedestrian facilities providing access the event site.

Bicycle Activity – Similar to pedestrian activity, increases in bicycle activity were observed both before and after the sample Fourth of July events. Some locations observed up to a 1,915% increase in bicycle traffic, crossing intersections adjacent to or accessing the event viewing site. Since these bicycle volumes are not typical, the intersections and bicycle facilities adjacent to or accessing the new Proposed Project locations may not have been designed to accommodate this level of bicycle traffic. Therefore, the Proposed Project Events occurring on the Fourth of July may potentially create temporary bicycle related impacts to the facilities providing access to the event site.

Transit Ridership (Trolley) – As noted in Chapter 3.0, an increase in trolley ticket sales, which is likely related to an increase in ridership, was observed during the sample Fourth of July Event. The increase is most likely due to the 4th of July Holiday and not the fireworks event itself. Even though an increase in trolley ridership was observed, it is anticipated that the new Proposed Project events occurring on the Fourth of July will not result in any impacts transit facilities.

Parking – As noted in Chapters 3.0 and 4.0, most of the parking facilities serving the viewing areas reached capacity on both event and non-event days, therefore, the sample event’s impact on parking could not be determined. However, since there was an observed increase in vehicular traffic at some locations on the day of the Fourth of July Event, it can be assumed that the parking demand would increase as well. Therefore, the new Proposed Project events occurring on the Fourth of July would likely result in temporary impacts to parking facilities serving the viewing areas.

6.4 Recommended Mitigation

Fourth of July Event

All transportation-related impacts associated with the Proposed Project events occurring on the Fourth of July Event will be temporary in nature and would only occur on the day of the event. Therefore, no permanent mitigation measures are recommended. Since each new Fourth of July Event will be unique in both size and nature, a transportation management plan should be developed and implemented for each new event occurring on the Fourth of July. Since such a increase in both pedestrian and bicycle activity was observed during the sample Fourth of July Event (over 1,000% increase in some places), it is recommended that a transportation management plan be developed to safely accommodate the additional pedestrian and bicycle demand accessing the event viewing area. Management strategies included in the plan will need to give special considerations to all transportation modes in order to ensure safe and convenient access to the viewing areas, while limiting conflicts between transportation modes, as well as impacts to surrounding transportation facilities.

Other Event

All transportation-related impacts associated with a non-Fourth of July, or Other, Event will be temporary in nature and would only occur on the day of the event. Therefore, no permanent mitigation measures are recommended. Since only a low to moderate increase in transportation activity was observed during the sample Other Event (21% in auto traffic, 34% in pedestrian traffic, and 13% in bicycle traffic), it is anticipated that a minor transportation management plan be required.

Appendix K
Cumulative Development Projects

Cumulative Development Projects

Project #	Name	Location	Description	Status
1	Shipyards Sediment Remediation Project	San Diego Bay between Sampson Street extension to the north and Schley Street to the south from the shoreline to the U.S. Pierhead Line to the west and a portion of British Aerospace Systems facility, San Diego, CA 92113	This project consists of dredging sediment adjacent to shipyards in the San Diego Bay; the dewatering, and possible solidification of the dredged material on-shore; potential treatment of decanted water; and the transport of the removed material to an appropriate landfill for disposal.	Completed
2	Mitsubishi Cement Corporation	850 B. Water Street, San Diego, CA 92101, within District's Tenth Avenue Marine Terminal	Project involves improvements to Warehouse C at the TAMT to import up to 500,000 metric tons of cement per year with an annual number of customer truck trips estimated to be 20,000 or an average of less than 55 trucks per day of operation with a maximum number of trucks visiting the site at 192 per day.	Proposed, not entitled
3	Pier 1 North Drydock	Sampson and Dewey streets, San Diego, CA 92113	This project proposes the construction and operation of a new drydock facility on the north side of Pier 1 at the British Aerospace Systems facility at 2205 and 400 East Belt Street. The project also analyzes the removal of subsurface cooling tunnels and associated real estate agreements.	BPC certified the Final EIR on November 17, 2015. Delivery and installation of the new dry dock scheduled for late 2016.
4	Metro Center Project	West side of National Avenue between Commercial and 16th streets, San Diego, CA 92113	This project consists of 160,600 square feet of regional shopping center uses, 163,300 square feet of retail space, and a 152,000-square-foot lumber store.	Proposed, not entitled
5	San Diego Continuing Education – Cesar Chavez Campus	Intersection of National Avenue and Cesar E. Chavez Parkway, San Diego, CA 92113	The new Cesar E. Chavez Campus will be a 67,924-square-foot school facility with 22 classrooms to serve 720 students. The facility will include a multi-purpose room and administrative offices.	Completed

Project #	Name	Location	Description	Status
6	Jack in the Box	Northwest corner of 29th Street and National Avenue, San Diego, CA 92113	The project proposes to construct a 2,588-square-foot fast food restaurant with drive-thru on the existing vacant pad.	Completed
7	Ballpark Village Parcel C	On the block bounded by Park Boulevard to the west and north, the trolley tracks/12th Avenue alignment to the east, and Imperial Avenue to the south, San Diego, CA 92101	The project proposes to remove the existing surface parking lot and develop 646 residential units at the project site. The residential units would include 280 condominiums and 366 apartments. There would also be 41,505 square feet of gross retail space.	In construction from 2015 to 2018
8	Ballpark Village Parcel D	Southwest corner of the 11th Avenue/Imperial Avenue intersection, San Diego, CA 92101	The project would include 1,800 hotel rooms with meeting space.	In construction from 2015 to 2018
9	Park and G	South side of G Street between Park Boulevard and 13th Street, San Diego, CA 92101	The project proposes to construct 5,500 square feet of retail space and 208 mid-rise and ground level apartments. In addition, the building will include common areas for residents at the ground floor and a rooftop deck.	Completed
10	Pinnacle Towers	15th Street and Island Street, San Diego, CA 92101	This project will be located on the block bounded by 14th Street, 15th Street, Island Avenue, and J Street in downtown San Diego. The project includes 442 apartments, 451 condos, and 17,100 square feet of commercial space.	First tower is complete; second is under construction; anticipated completion –2019
11*	San Diego Convention Center Phase III Expansion and Hotel Expansion as shown in the Port Master Plan	111 West Harbor Drive, San Diego, CA 92101	Expansion of the existing Convention Center that would add approximately 220,150 square feet of exhibit hall space, approximately 101,500 square feet of meeting rooms, and approximately 78,470 square feet of ballroom space to the existing facility. Public amenities include a 5-acre rooftop park/plaza. It would be accessible to the public with lighted paths, seating areas, an open lawn/performance area, and several observation vistas. Spaces on the rooftop park/plaza would range from grand areas where events can take place to more intimate, contemplative areas. Does not involve any in-water work. The ballroom and meeting facility expansion would	EIR certified and PMPA approved by the District Board in September 2012. PMPA approved by CCC October 2013. Project is currently unfunded and the San Diego Convention Center Corporation does not have real property rights to the site, but the City of San Diego has expressed

Project #	Name	Location	Description	Status
			contain approximately 55,000 net square feet of total meeting space including a grand ballroom and break-out meeting space. The grand ballroom would be located atop the existing seven-story hotel parking facility adjacent to the hotel. At its highest point, the new grand ballroom would rise approximately 60 feet above the top floor of the existing parking deck. The Expansion Hotel would consist of a maximum of 500 guestrooms in a new guestroom tower and an adjacent ballroom/meeting facility. The new tower would consist of 24 guestroom levels atop 6 levels of lobby, amenity, meeting, and support spaces, including a 10,000-square-foot fitness/spa facility and up to 2,500 square feet of retail space. The height of the expansion tower would not exceed the height of the existing Hilton Hotel tower.	interest in pursuing the project.
12	Sprint Cell Tower	224 Marina Park Way, San Diego, CA 92101	The project proposes to construct, operate, and maintain an unmanned wireless telecommunications facility and equipment room located at Embarcadero Marina Park South.	Completed
13	Dole Fresh Fruit Refrigerated Rack Improvements Project	850 B. Water Street, San Diego, CA 92101, within District's TAMT	Installation of 5 new refrigerated racks with an additional 94 electrical outlets, which would increase outlets from 669 to 763. Improvements would increase storage capacity within existing footprint that would accommodate up to three new larger ocean-going vessels.	Construction completed end of 2016
14	National City Marine Terminal Tank Farm Paving and Street Closures Project	Generally Quay Avenue, between Bay Marina Drive and 28th Street, National City, CA 91950	This project would grade and pave the former tank farm parcel at the National City Marine Terminal (NCMT) and proposes closure of Quay Avenue between Bay Marina Drive and 28th Street, 28th Street between Quay Avenue and the National City Marine Terminal, and 32nd Street west of Tidelands Avenue in order to provide additional space for marine terminal operations, which primarily include import, export, handling, and storage of motor vehicles.	Partially entitled (EIR certified in 2016); paving of former tank farm anticipated in 2017

Project #	Name	Location	Description	Status
15	San Diego Marriott Marquis & Marina Facilities Improvement Project	333 West Harbor Drive, San Diego, CA 92101	This project would demolish the existing 131,500-square-foot Marriott Hall at 333 W. Harbor Drive to accommodate a new facility containing 71,800 square feet of ballroom and meeting space. The proposed new Marriott Hall would increase the gross building area from 131,500 square feet to 169,400 square feet, and the total building footprint would increase from 60,900 square feet to 80,400 square feet.	Completed
16	COMM22	Southeast corner of Commercial and 22nd Streets, San Diego, CA 92113	A master-planned development located on a 4-acre parcel at the southeast corner of Commercial and 22nd Streets. 130 affordable family apartments and 70 senior affordable apartments have been developed. Additional development includes community-serving commercial and retail space, office space, market rate live/work lofts, and for-sale townhomes. The lofts will be housed in a rehabilitated warehouse building, with the remainder of the development consisting of new construction.	Affordable housing complete; remaining phases depend on market conditions
17	Pier 12 Replacement and Dredging at Naval Base San Diego	Pier 12 at Naval Base San Diego, San Diego, CA 92136	Demolition of an inadequate existing pier (Pier 12), dredging in berthing and approach areas for a new pier, dredged material disposal at an approved ocean disposal site and permitted upland landfill, construction of a new pier and associated pier utilities, including upgrades to the electrical infrastructure at the adjacent Pier 13, and reuse of demolition concrete to create fish enhancement structures (artificial reefs). The purpose of the proposed action is to address the current and impending shortfall at Naval Base San Diego of pier infrastructure necessary to support modern Navy ship classes with deep draft-power intensive or power intensive requirements.	The project construction started in 2011 and is expected to be completed in 2016

Project #	Name	Location	Description	Status
18	Pier 8 Replacement Naval Base San Diego	Pier 8 at Naval Base San Diego, San Diego, CA 92136	Demolition of the inadequate existing Pier 8; construction of a replacement Pier 8; provision of associated pier utilities. The purpose of the proposed action is to address the current and impending shortfall at Naval Base San Diego of pier infrastructure necessary to support modern Navy ship classes with deep-draft and power-intensive requirements.	The construction period is estimated to be approximately 10 months and would take place between 2018 and 2019
19	National City Aquatic Center	Southeastern corner of Pepper Park, 3299 Tidelands Avenue, National City, CA 91950	This project consists of a 4,600-square-foot aquatic center in the southeastern corner of Pepper Park, north of the Sweetwater Channel, east of the Pepper Park boat launch ramp, and west of the Pier 32 National City Marina. The aquatic center, which was constructed by the City of National City on District property, includes a multi-purpose classroom, offices, a police storefront, lockers, showers, restrooms, boat and equipment storage, public art, landscape improvements, and promenades and walkways. Construction commenced in 2013 and was complete in 2016. Additional information on the environmental effects of this project is available at the District's Office of the District Clerk.	Completed
20	Interim Segment 5 of the Bayshore Bikeway	Tidelands Avenue between Civic Center Drive on the north and West 32nd Street on the south, and on West 32nd Street between Tidelands Avenue on the west and Marina Way on the east, National City, CA 91950	SANDAG is proposing to construct the interim Segment 5 of the Bayshore Bikeway on Tidelands Avenue between Civic Center Drive on the north and West 32nd Street on the south, and on West 32nd Street between Tidelands Avenue on the west and Marina Way on the east. This project includes a combination of Class I, Class II, and Class III bicycle facilities. Additional information on the environmental effects of this project is available at the District's Office of the District Clerk. This interim alignment is to remain until a permanent alignment is constructed elsewhere or another interim alignment is identified and constructed. The permanent alignment is discussed below under Cumulative Project #28.	Construction in mid-2017; estimated 6 month construction period

Project #	Name	Location	Description	Status
21	Pavement Repair at 32nd Street	32nd Street west of Tidelands Avenue, National City, CA 91950	Port District repairs to 32nd Street west of Tidelands Avenue. This project includes the grinding and overlaying of 2 inches of asphalt for a total of approximately 51,000 square feet, as well as replacing a concrete driveway and installing striping and pavement markings. Additional information on the environmental effects of this project is available at the District's Office of the District Clerk.	Completed
22	Wayfinding Signage Program	On and off of District tidelands, National City, CA 91950	This project includes a Memorandum of Understanding (MOU) between the District and City of National City to fund the City's wayfinding signage program with funds from the District's Maritime Terminal Impact Fund. The MOU specifies the terms and conditions of payment to the City for the City's installation of various wayfinding signage to direct National City visitors and residents to key attractions, amenities, and features located on, or adjacent to, District tidelands. The signage would also help to enhance urban design; reinforce community identity; reduce confusion for drivers, pedestrians, and bicyclists; improve access for District tenants; improve land use compatibility with roadway network; and improve traffic flow and enhance safety. By creating wayfinding signage that is informative to traffic and pedestrians, National City intends to improve on-tidelands operations by providing a more efficient access to the NCMT, while directing trucks and industrial parking from the local streets and neighborhoods located off-tidelands. The placement and information provided on the wayfinding signage will attempt to identify routes for commercial, recreational, residential, visitor, and pedestrian uses promoting routes that are more agreeable to each user group, thus increasing efficiencies. The signs would be located on and off of District tidelands and are anticipated to be installed by the end of 2015. Additional information on the environmental effects of this project is available at the District's Office of the District Clerk.	Anticipated to be completed by the end of 2017

Project #	Name	Location	Description	Status
23	National City Marine Terminal Guard Shack Roof Repair	Western end of Bay Marina Drive, National City, CA 91950	This project consists of repairs to the roof of an existing guardshack at NCMT located at the western end of Bay Marina Drive. Construction commenced in December 2014 and was completed in February 2015. Additional information on the environmental effects of this project is available at the District's Office of the District Clerk.	Completed
24	ADA Accessibility Improvements	Pepper Park, 3299 Tidelands Avenue, National City, CA 91950	This project consists of three wheelchair curb ramp modifications—one in Pepper Park and two near the entrance to Pepper Park. Construction began in early 2015 and was completed within 1 month. Additional information on the environmental effects of this project is available at the District's Office of the District Clerk.	Completed
25	NCMT Fire Alarm System Replacement	National City Marine Terminal, 1400 West Bay Marina Drive, National City, CA 91950	This project is replacing the existing fire alarm system at the NCMT. The project will include upgrading alarms, sensors, alarm pull handles, and wiring. The project was completed in December 2014. Additional information on the environmental effects of this project is available at the District's Office of the District Clerk.	Completed
26	Westside Infill Transit Oriented Development (WI-TOD)	South of 19th Street, west of Hoover Avenue, north of 22nd Street, and east of Harding Avenue, National City, CA 91950	This project, also known as the Paradise Creek Affordable Housing Project, is a proposed 201-unit affordable housing and park development on the east side of Paradise Creek, and the expansion of Paradise Creek Educational Park on the west side of the creek. This project is incorporated into the Westside Specific Plan, which is a 100-acre plan to improve the health of the Westside community by promoting sustainable development and amortizing non-compatible land uses. The plan was adopted by the City of National City in 2010. The project site is approximately 13 acres of the 100-acre area and is generally located south of 19th Street, west of Hoover Avenue, north of 22nd Street, and east of Harding Avenue. The site consists of four parcels owned by the City and includes the National City Public Works Yard, the former Sun Diego Bus Charters maintenance facility, Paradise Creek, and Paradise Creek	In construction: Phase I (109 apartments and resident center) anticipated to be complete in December 2016; Phase II (92 apartments) construction began in summer 2016

Project #	Name	Location	Description	Status
			<p>Educational Park. The site also includes portions of adjacent public rights-of-way that are generally undeveloped. This project was evaluated in the EIR for the Westside Specific Plan as 360 residential units, 450,000 square feet of office space, and 65,000 square feet of retail space. The EIR identified significant environmental impacts associated with air quality, GHG emissions, noise, cultural resources, biological resources, and hazards and hazardous materials. Mitigation measures were required, and impacts on biological resources, cultural resources, and hazards and hazardous materials were reduced to less-than-significant levels with mitigation incorporated. However, even after mitigation, the plan’s impacts on air quality and noise were determined to be significant and unavoidable, while the plan’s cumulative contribution to significant cumulative impacts related to air quality, climate change (i.e., GHG emissions), noise, and traffic would be cumulatively considerable (City of National City 2010).</p>	
27	<p>NCMT Berth 24-10 Structural & Mooring Repair</p>	<p>National City Marine Terminal, 1400 West Bay Marina Drive, National City, CA 91950</p>	<p>This project is a Port District project that would maintain and repair Berth 24-10 at the NCMT. Construction is not budgeted or approved yet, but it is currently planned to be an option proposed for approval for Fiscal Year 2015/2016. If approved, construction is planned to span two fiscal years and be complete by the end of Fiscal Year 2016/2017.</p>	<p>In construction from 2016 through early summer 2017</p>
28	<p>Balanced Land Use Plan EIR</p>	<p>Generally north of the Sweetwater Channel, south of Bay Marina Drive, east of NCMT, and west of Paradise Marsh, National City, CA 91950</p>	<p>Includes Balanced Land Use Plan (changing commercial recreation, marine related industrial, marine terminal, park/plaza, and street land uses in the Marina District; a tenant project to close Tidelands Avenue between Bay Marina Drive and 32nd Street for marine terminal activities; a permanent alignment of the Bayshore Bikeway; a tenant project to construct a connector rail track; a tenant project to construct an RV park and up to four hotels; and a hotel project on property owned by the</p>	<p>EIR analysis anticipated to commence early 2017</p>

Project #	Name	Location	Description	Status
			City of National City, north of the existing Best Western Marina Gateway Hotel. This project requires an amendment to the Port Master Plan, and amendments to the City of National City's General Plan, Local Coastal Program, and Bicycle Master Plan.	
30	B Street Mooring Dolphin	B Street Pier, 1140 North Harbor Drive, San Diego, CA 92101	Installation of moorings off the end of B Street Pier to allow for larger cruise ship docking.	Draft EIR circulated February 2013. The Final EIR has not yet been released.
31	B Street Cruise Ship Terminal Maintenance Projects	B Street Pier, 1140 North Harbor Drive, San Diego, CA 92101	Projects on B Street Pier are required to address routine maintenance requirements to improve safety, security, integrity, aesthetics, and comfort of this facility. Roof replacement, canopy improvements, roll-up and rolling rate doors installation, fire system upgrades, clean and paint ceilings and hangers, mobile gangway and platform painting, and photovoltaic system.	Approved by the District in early 2012 and incorporated into District's Asset Management Program (AMP). Currently in design phase for 2017, followed with construction in 2018.
32	Lane Field North and South	North side of Broadway between North Harbor Drive and Pacific Highway, San Diego, CA 91910	Two hotels (totaling 800 rooms), parking facilities, and retail uses on a 5.8-acre parcel formerly used as a parking lot. Construct park/plaza on western 150-feet of property.	Construction of Lane Field North was completed in April 2016. Lane Field South began in June 2016. Construction is anticipated to be completed in Fall 2018.
33	Tenth Avenue Marine Terminal	686 Switzer Street, San Diego, CA 92101	This project's EIR includes a program- and project-level analysis. The program component looks at Maximum Practical Capacity of three distinct cargo nodes (e.g., Refrigerated Container, Neo-bulk/Break Bulk, Dry Bulk) to the horizon year of 2035. Long-term infrastructure investments may include up to five gantry cranes, additional and consolidated dry bulk storage capacity, enhancements to the existing conveyor system, demolition	EIR was certified on December 13, 2016. Construction of Phase 1 to begin in 2017.

Project #	Name	Location	Description	Status
			<p>of molasses tanks and Warehouse C, additional open storage space, and on-dock intermodal rail facilities. The project level improvements would be completed by June 30, 2020, and involve demolition of the two transit sheds, installation of a small gear-shack with restrooms and outdoor storage space, and on-terminal rail upgrades. Project improvement do not involve any in-water work; all program and project level improvements would be landside.</p>	
34	Public Viewing Platform	1050 North Harbor Drive, San Diego, CA 92101	<p>Demolition of a vacant approximately 2,400-square-foot building, supported by piles over the San Diego Bay. The building was most recently used by the Bay Café as a restaurant, which ceased operations in January 2014. The proposed project will result in the demolition of only the building, leaving the concrete pad and supporting piles and creating a public access area with surface improvements (i.e., railing, enhanced paving or bricks, benches, or tables and chairs) that match the North Embarcadero Visionary Plan (NEVP) Phase 1 project adjacent to the project site. The public access area will be open to the public at all times. The project also includes structural repairs to some of the concrete pile extension jackets in order to preserve the platform structure and extend its useful life.</p>	Construction completed Spring 2016
35*	Wyndham Hotel Renovations	1355 North Harbor Drive, San Diego, CA 92101	<p>Project proposes the demolition of 28,685 square feet of existing facilities, to relocate the hotel entrance to Pacific Highway and A street, construction of approximately 70,303 square feet to include a new lobby, pool deck, retail and pavilions, 2.8 acres of public space, and the addition of 141 parking spaces on a new parking deck on the existing parking structure.</p>	Proposed, not entitled.

Project #	Name	Location	Description	Status
36*	Wyndham Hotel with a 205-foot setback park and potential realignment of North Harbor Drive pursuant to NEVP Phase 1 CDP Conditions and MOU, which require an analysis of the 205-foot setback park on equal footing with the North Embarcadero Port Master Plan Amendment	1355 North Harbor Drive, San Diego, CA 92101	Project site redevelopment with an alternative 205-foot waterfront setback park as specified in the NEVP Phase 1 CDP dated April 18, 2011 (SDUPD Clerk Document No. 58230) and MOU entered into on November 9, 2010 (SDUPD Clerk Document No. 57019). Realignment of North Harbor Drive may also occur. The alternate 205-foot setback park is part of the 15 “planning elements” to be analyzed on equal footing with the proposed North Embarcadero Port Master Plan Amendment project.	Pre-Design Concept Underway for North Embarcadero/Harbor Drive realignment; Environmental Review anticipated to begin Late-2017.
37	North Embarcadero Visionary Plan – Phase 1	North Harbor Drive from F Street to Ash Street, and West Broadway from North Harbor Drive to Pacific Highway, San Diego, CA 92101	Public access improvements to North Embarcadero, including: realign North Harbor Drive from B Street Pier to south of the Broadway Pier eastward; construct 105-foot-wide esplanade, public plaza at the foot of West Broadway, gardens, shade pavilions, ticket kiosks, information building, walk-up café, restroom, median improvements on West Broadway between North Harbor Drive and Pacific Highway; restripe North Harbor Drive to provide an additional turn lane to the Grape Street/North Harbor Drive intersection.	Construction completed May 2016.

Project #	Name	Location	Description	Status
38	Environmental Impact Report Review for North Embarcadero and Port Master Plan Amendment	North Harbor Drive between Laurel Street and G Street, San Diego, CA 92101	Environmental review associated with the realignment of North Harbor Drive between Laurel Street and G Street in order to define the future character of North Embarcadero consistent with conditions specified in the California Coastal Commission-issued Coastal Development Permit dated April 18, 2011 (SDUPD Clerk Document No. 58230) and an Memorandum of Understanding (MOU) entered into on November 9, 2010 (SDUPD Clerk Document No. 57019). The Project will analyze plans for key public infrastructure improvements related to parks and open space, parking, traffic, and multi-modal circulation, including an analysis of 15 “planning elements” described in the CDP and MOU.	Pre-Design Concept Underway; Environmental Review anticipated to begin Late-2017.
39	B Street Shore Power	B Street Pier and Broadway Pier, 1140 and 1000 North Harbor Drive, San Diego, CA 92101	Project consists of infrastructure components to provide shore power to existing terminal operations at the B Street and Broadway Piers (three berths) with the result of reducing air pollutant emissions and greenhouse gas emissions while cruise ships are berthed. Initially, shore power will be available to one ship at a time; in subsequent years, two ships will be able to use shore power at the same time.	Initial phase completed in December 2010. The second phase is scheduled to be completed in 2017.
40	Bayside Fire Station	Southeast corner of Pacific Highway and Cedar, San Diego, CA 92101	Three-bay City of San Diego Fire Station.	Construction began May 2016 and is anticipated to be completed mid-2017.
41	Pacific Gate	Southeast corner of Pacific Highway and Broadway, San Diego, CA 92101	A 41-story residential tower comprising 217 residential units and 16,027 square feet of retail commercial space, and 419 parking spaces.	Design approved in 2016. Construction estimated to be completed in 2017.
42	Pacific and Broadway Parcel #9	Pacific Highway/Broadway/E Street/Rail Corridor, San Diego, CA 92101	232 condos, 16,000 square feet of retail	Began construction December 2015, anticipated to be completed in 2017.

Project #	Name	Location	Description	Status
43	Pacific and Broadway Parcel #1	Pacific Highway and Broadway, San Diego, CA 92101	306 condos, 15,000 square feet of retail	Pending approval
44	1919 Pacific Highway	East side of Pacific Highway between Grape and Cedar, San Diego, CA 92101	110 apartments	Pending approval
45	Navy Broadway Complex	Broadway/Harbor Drive/Pacific Highway, San Diego, CA 92101	Redevelopment of a 13.7-acre parcel with 2.9 million square feet of office space, including a 351,000-square-foot museum; 213,000-square feet of retail and restaurant space; more than 3,100 parking spaces; and a 1.9 acre public park at the corner of Broadway and Harbor Drive.	Development Agreement, Master Plan, Phase I Buildings Consistency Determination approved in 2009. Construction is anticipated to begin in 2017.
46	Naval Base Point Loma Fuel Pier (18) Replacement and Dredging	Naval Station Point Loma and Alternative Bait Barge locations within State lands, San Diego, CA	Construct temporary Space and Naval Warfare Systems Center (SSC) marine mammal facilities at Naval Main and Anti-Submarine Warfare Command (NMAWC) and then relocate the program to NMAWC; demolish existing NBPL Fuel Pier in phases so as to leave pier operational throughout project; construct 71,180-square-foot double-deck replacement pier and perform associated dredging; return SSC marine mammal program to original location.	In construction; anticipated to be completed in 2017.
47	Harbor View Hotel	Block bounded by Pacific Highway, Ivy, California, and Hawthorne Streets, San Diego, CA 92101	Construction of a six-story (60-foot-tall) building containing two hotels with a total of 364 hotel rooms and 182 parking spaces.	In construction, anticipated to be completed mid-2016.
48	San Diego International Airport Mater Plan – Northside Improvements	3225 North Harbor Drive, San Diego, CA 92101	Includes the following: construction of a 6,500-space consolidated rental car (CONRAC) facility, a 2,170-space public surface parking lot, and 225,000 square feet of air cargo facilities on the north side of San Diego International Airport.	In construction, anticipated to be completed in 2017.
49	San Diego International	3225 North Harbor Drive, San Diego, CA 92101	The San Diego Regional Airport Authority (SDCRAA) proposes to design and construct a parking plaza adjacent	In construction; anticipated to take 20

Project #	Name	Location	Description	Status
	Airport Mater Plan – Parking Plaza		to Terminal 2 on the San Diego International Airport. The parking plaza would be a three-story, 1,035 million square-foot approximately 34-48 foot-high parking structure with 1,753 new parking spaces over an existing surface parking lot with 1,323 parking spaces for a total of 3,076 parking spaces, removal of 46 palm trees, landscaping, and 34,400 cubic yards (CY) of grading (31,800 CY cut, 2,600 CY fill).	months to complete
50	Integrated Planning Process- PMP Update	Throughout District tidelands	Comprehensive Update of the Port Master Plan anticipated including new topical sections, or elements, to provide baywide guidance related to Land and Water Use, Coastal Access and Recreation, Mobility, Natural Resources, Safety and Resiliency, and Economic Development.	Planning Phase – PEIR under preparation
51*	Fifth Avenue Landing Redevelopment	Southerly paper end of Fifth Avenue, between the back of the Convention Center and South Embarcadero Park, San Diego, CA 92101	Development includes: two hotel structures, one 44-story, approximately 498-foot tall 850-room hotel tower, and one 5-story, approximately 82-foot tall 565-bed lower-cost visitor-serving hotel; a 205-space parking structure ; retail; meeting space; ancillary guest amenities; a bridge connecting the hotel to the Convention Center; approximately 92,142 square feet of public access areas approximately 8,322 square feet at ground level and 83,820 square feet on a podium level; and expansion of the marina by an additional 52,175 square feet of dock space. The project would maintain the existing 35-foot-wide bayfront promenade.	The Board of Port Commissioners authorized staff to commence environmental review in March 2016. EIR under preparation. Existing lease with Fifth Avenue Landing reserves discretion with the Board of Port Commissioners to approve or disapprove the project.
52	Verizon Embarcadero Marina Park South Telecommunications Project	224 Marina Park Way, San Diego, CA 92101	Verizon Wireless proposes to modifications to an existing Sprint Wireless telecommunications facility in Embarcadero Marina Park South. The project would allow for Verizon Wireless to collocate on the existing cellular tower. A Tideland Use and Occupancy Permit would be needed to install the facility.	Proposed, not entitled

Project #	Name	Location	Description	Status
53	Laurel Hawthorn Embayment: Excavation/Enhanced Monitored Natural Recovery Remedial Action for the 30-inch Storm Water Conveyance System Outfall Project	2701 North Harbor Drive, San Diego, CA 92101	The project will combine a cleanup action involving the direct removal of higher PCB concentrated sediment from an approximately 0.06 acre area in the immediate vicinity of the 30-inch storm water conveyance system and placement of an enhanced monitored natural recovery sand layer with activated carbon over an approximately 1-acre area adjacent to the storm water conveyance system outfall. In addition, a 24-foot long section of shoreline riprap stabilization will be covered with a non-woven geotextile fabric, anchored by articulated concrete panels to mitigate the potential for re-mobilization of impacted sediment over an approximately 0.02 acre area immediately adjacent to the storm water conveyance system outfall.	Proposed, partially entitled
54	Poseidon Resources Mitigation Site (Pond 15)	Pond 15 located in northeast corner of the San Diego Bay Unit of the San Diego Bay National Wildlife Refuge, Chula Vista, CA 91911	Restoration activities would substantially restore wetland habitat at Pond 15.	Proposed, not entitled
55	Coronado Yacht Club Redevelopment	1631 Strand Way, Coronado, CA 92118	The project proposes demolishing the existing clubhouse and Junior Sailing clubhouse and constructing a replacement clubhouse and Junior Sailing clubhouse on the site. Specifically, the existing approximately 10,555 square-foot clubhouse and Junior Sailing clubhouse would be replaced with a one-story approximately 10,554 square-foot clubhouse. The finished floor elevation is proposed to be raised by approximately 18 inches to accommodate sea level rise; as a result, the finished roof height will increase by approximately five inches. To accommodate the building replacement, exterior improvements to the walkway and the wood deck are also proposed, as well as landscape enhancements between the existing revetment and sidewalk.	Proposed, not entitled

Project #	Name	Location	Description	Status
56	Glorietta Bay Marina Dock C and Boat Launch Facility Improvements	1715 Strand Way and 1917 Strand Way, Coronado, CA 92118	The Dock C improvements consist of the redevelopment, reconfiguration, and extension of the existing dock system. The reconstructed dock would provide the same number of boat slips (34 total) with the same slip mix (16 slips for vessels 30 feet and under, and 18 slips for vessels over 30 feet). The gangway ramp would be extended in order to move the dock away from the shoreline fringe. Landside improvements would include upgrades to electrical, internet, and telephone systems and extending firewater service to the dock system. The boat launch facility improvements would consist of replacing the concrete apron of the boat launch ramp, maintaining the adjacent revetment, replacing and expanding the uses of the adjoining boarding dock with a free public dock, installing a non-motorized craft launch area on a new sandy beach, resurfacing the parking lot, installing a new boat wash-down area, and repairing a small area of riprap and existing storm drain in the northern beach area of Glorietta Bay Park.	Construction anticipated to commence in fall 2016 and be completed in approximately 6 months
57	Portside Pier Restaurant Redevelopment Project	1360 North Harbor Drive, San Diego, CA 92101	Redevelopment of an existing waterfront restaurant with a new facility, including new pilings, piers, decking, and structure. Development involves demolition of an existing restaurant and supporting structure (including 66 piles) and redevelopment with a new, two-story restaurant and supporting structure (on 53 piles). The new facility would be approximately 33,577 square feet and include three distinct dining establishments, a coffee and gelato shop, an expanded dock and dine for short-term boat berthing, and a public viewing deck. The Project would involve an approximately 8,722-square-foot increase in building floor area and a 4,480-square-foot net increase in water coverage. Restaurant seating would be increased by 464 seats. A new public viewing deck with approximately 108 seats is proposed and the replacement dock and dine boat dock would increase slips from 2 to 12 boat slips.	The Board of Port Commissioners adopted the Mitigated Negative Declaration December 13, 2016. Construction is anticipated to commence in 2017.

Project #	Name	Location	Description	Status
58	Shelter Island Boat Launch Facility Improvements Project	2210 Shelter Island Drive, San Diego, CA 92106	The project involves repair, maintenance, and replacement of the boat launch ramp, jetties (including public walkways), gangways, and floating docks, as well as minor improvements to the kayak launching area, restrooms, and parking.	Construction anticipated to commence in early 2017 and be completed in approximately 8-10 months
59	Kona Kai Resort Hotel Expansion Project	1551 Shelter Island Drive, San Diego, CA 92106	The project involves expansion and renovation of the existing Kona Kai Resort, as follows: 1) construction of 41 new guest rooms in two new buildings; 2) construction of a new two-story marina facility retail building; 3) construction of a new pool and pool deck; 4) expansion of the existing pool deck and construction of a new pool bar; and 5) renovation of the existing restaurant, spa and fitness center, conference and meeting facilities, guest rooms, lobby marina facility building, dock master building, beach, parking lot, and landscaping.	In construction; anticipated to be completed in 2018
60	Intrepid Landing Buildings A and B	2702 Shelter Island Drive, San Diego, CA 92106	The project involves construction of approximately 6,240 square feet of marine sales and service buildings with approximately 281 square feet of food service made up of Building A and B with parking, pedestrian walkway of 10-foot width, hardscape, and landscaping.	In construction; anticipated to be completed by December 2016
61	Intrepid Landing Building C	2702 Shelter Island Drive, San Diego, CA 92106	The project involves Construction of a 5,000-square-foot marine sales and service building (Building C), up to 52 boat slips, shoreline pedestrian walkway of 10-foot width, public plazas and gathering areas, and required parking.	Completed
62	Humphrey's Half Moon Inn and Suites Marina Redevelopment	2303 Shelter Island Drive, San Diego, CA 92106	The project involves replacement of the existing wood docking system comprising the Humphrey's Half Moon Inn and Suites marina with a recycled aluminum docking system, as well as minor reconfiguration of the marina to support a new Americans with Disabilities Act compliant gangway. The project will not require the installation of any new piles.	In construction; anticipated to be completed in early 2017

Project #	Name	Location	Description	Status
63	Navy Miramar Pipeline Repair and Relocation	Between Naval Base Point Loma (NBPL) Defense Fuel Support Point (DFSP) in the NBPL Complex (south end of the pipeline) and the first 5 miles of pipeline extending out into the City of San Diego	The project would involve the repair and relocation of the existing Navy owned 8-inch Miramar Fuel Pipeline along various locations in the City of San Diego within the first five miles of the pipeline. The project is needed to maintain the safe, consistent, and continuous use of the pipeline between Defense Fuel Support Point Loma and Marine Corps Air Station Miramar. This project would repair various pipeline anomalies and mitigate potential geohazards to provide for the continued fueling needs of existing and future Navy ships.	In construction; anticipated to be completed in summer 2017
64	Tonga Landing Redevelopment	2385 Shelter Island Drive, San Diego, CA 92106 and 2353 Shelter Island Drive, San Diego, CA 92106	The project would modernize the existing two-story Tonga Landing building, demolish and replace the one-story Gold Coast building, update the Gold Coast dock, enhance the entire site layout, and operate as one entity as Tonga Partners, Inc.	Proposed, not entitled
65	South Bay Substation Relocation	Chula Vista, CA 91910	The Project includes six components: (1) Construction of a 230/69/12-kilovolt (kV) substation (Bay Boulevard Substation) in the City of Chula Vista; (2) Construction of a 230 kV transmission line loop-in, including an approximately 1,000-foot-long underground interconnection and an approximately 300-foot-long overhead interconnection of the existing 230 kV tie-line, located east of the proposed Bay Boulevard Substation; (3) Relocation of six 69 kV transmission lines and associated communication cables to the proposed Bay Boulevard Substation, requiring the relocation of approximately 7,500 feet of overhead line and the construction of approximately 4,100 feet of underground line; (4) Installation of a 138 kV transmission line extension, including an approximately 3,800-foot underground and approximately 200-foot overhead span from one new steel cable pole to an existing steel lattice structure, as well as undergrounding of the remaining overhead segment of 138 kV line on Bay Boulevard, including two lattice towers and approximately 1,000 feet of overhead line; (5)	In construction; anticipated to be completed by 2017

Project #	Name	Location	Description	Status
			Demolition of the existing 138/69 kV South Bay Substation; and (6) Completion of wetland mitigation at the D Street Fill site.	
66	Pond 20 Mitigation Banking	Pond 20, San Diego, CA 92154	Pond 20 is a 95.13 acre undeveloped parcel of land located at the south end of San Diego Bay. An approximately 80-acre parcel in the center of Pond 20 is proposed as a mitigation bank, while 11 acres are proposed as potential commercial and/or passive uses.	Proposed, not entitled
67	South Campus Demolition Project	Bounded by H Street to the north, J Street to the south, Marina Parkway to the west, and western boundary of the San Diego Gas & Electric utility corridor to the east, Chula Vista, CA 91910	The project involves demolition and removal of existing concrete slab foundations and asphalt paved areas located entirely on a 66.17-acre site.	Phase 4A demolition completed in 2014; Phase 4B demolition anticipated to commence in early 2017
68	Palm Street Observation Area	Palm Street/Pacific Highway/Admiral Boland Way, San Diego, CA 92101	Construction of an observation area for pedestrians to view the surrounding airport and approaching aircraft. Previously used as the main vehicle entrance to a former GA facility which was demolished and reconstructed to the north, the observation area is proposed on a remnant parcel of approximately 0.7 acre. The observation area would create a small park setting and provide an area from which pedestrians may observe aircraft approaching and departing the airport. In addition, light rail transit passengers from the Middletown trolley station will be guided to walk through the observation area to access the free bus shuttle to the airport terminals. The area will combine art, seating, landscaping, lighting, and pedestrian walkways. No vehicle parking will be provided	In construction
69	H Street Extension	H Street, Chula Vista, CA 91910	The project extended H Street westerly from Bay Boulevard, where the public roadway currently ends, to Marina Parkway. Additionally, Marina Parkway was extended southerly from H Street to Sandpiper Way. The four-lane roadway includes a 12-foot-wide Class 1	Completed

Project #	Name	Location	Description	Status
70	Chula Vista Resort Hotel and Conference Center	H-3 parcel, Chula Vista, CA 91910	bikeway adjacent to the sidewalk. Other improvements include landscaping, a drainage system, water transmission lines, landscaping and street lights. The roadway extension totals 1,800 feet in length. The proposed resort and conference center is anticipated to include up to 1,600 rooms and have up to 100,000 square feet of restaurant, up to 20,000 square feet of retail, up to 415,000 square feet of meeting space, and other associated ancillary uses. The bayward portion of the site would be developed with a 150-foot-wide public open space esplanade inland of E Street, and a specialty retail shopping village consisting of buildings no more than 35 feet in height with commercial retail on the ground floor and hotel/conference uses above. The maximum heights for the resort conference center would be 240 feet for the hotel and 120 feet for the convention center.	Proposed, partially entitled
71	Western Chula Vista Residential Development	Western Chula Vista, Chula Vista, CA 91910	Several entitled projects in western Chula Vista remain undeveloped. However, 522 multi-family units are projected by the end of 2017, including: <ul style="list-style-type: none"> • 230 Church Avenue – 28 units • 387 Roosevelt Street – 2 units • Bahia Vista Townhomes – 16 units: Ada Street • Creekside Point – 119 units: 944 Third Avenue • D Street Townhomes – 85 units • Monterey Place – 24 units: 267 Oxford Street • Stone Creek Casitas – 97 units: 3875 Main Street • Vista del Mar – 71 units: Third & K • Vista del Oro – 80 units: Broadway & Moss • Bayfront – Pacifica – 161 units • The Colony – 162 units: 435 Third Avenue • El Dorado Ridge – 104 units: Brandywine Avenue • Industrial Townhomes – 42 units • Urbana – 266 units: H Street between Third and Fourth Avenues 	Entitled; construction anticipated to commence in 2017 and 2018

Project #	Name	Location	Description	Status
72	City of Coronado Third, Fourth, and I Avenue Storm Drain Rehabilitation Project	Third, Fourth, and I Avenue, Coronado, CA 92118	The project proposes to mitigate flooding near the intersection of Fourth Street and Alameda Boulevard in the City of Coronado that occurs during storm events. The project involves installation of new inlets, construction of a new storm drain system, upsizing of an existing storm drain outfall, installation of a rock energy dissipater, and other related improvements.	Construction anticipated to commence in early 2017
73	New Restaurant at Ferry Landing	1201 First Street, Coronado, CA 92118	<p>The proposed Project includes the construction of approximately 7,200 square feet (sf) of indoor space and approximately 4,854 sf of outdoor space for restaurant use. The total number of restaurant seats for both spaces is anticipated to be approximately 300. The height of the restaurant is anticipated to be approximately 24 feet above ground level. The Project is designed to allow for accessibility between the existing parking areas and the shoreline public walkway. The Project will provide pedestrian/bicyclist amenities to the existing observation deck adjoining the shoreline public walkway adjacent to the Project site. The Project will incorporate current Americans with Disabilities standards, energy efficient systems and lighting, additional recycling facilities, and water saving plumbing and irrigation systems.</p> <p>It is anticipated that construction of the Project will be completed in approximately nine months.</p>	Proposed, not entitled
74	Site Preparation at Chula Vista Bayfront	Chula Vista, CA 91910	The proposed project involves site preparation and fill placement of approximately 681,000 cubic yards of soil at various sites within the Chula Vista Bayfront. The project involves removal of existing foundations, pavement, and utilities, as well as grading and compaction of various sites.	Proposed, partially entitled

Project #	Name	Location	Description	Status
75	Harbor Island West Marina Redevelopment	2040 Harbor Island Drive, San Diego, CA 92101	The project involves demolition of 23,000 square-feet of existing building and construction of 15,800 square feet of new office, deli, and retail, as well as reconfiguration of an existing marina. The project would expand the promenade from 8 feet to 12 and reduce boat slips from 620 to 603.	Proposed, not entitled
76	San Diego-Coronado Bay Bridge Lighting	San Diego, CA 92113 and Coronado, CA 92118	The Project proposes to illuminate the bridge columns with up-lighting and down-lighting.	Proposed, not entitled
77	Lockheed Martin Company Marine Terminal Demolition Project	1160 Harbor Island Drive, San Diego, CA 92101	The project involves demolition of 5,500 square feet of building and removal of a pier and trolley rail.	Proposed, not entitled
78	San Diego Symphony Bayside Performance Park Enhancement Project	Portion of Embarcadero Marina Park South, 224 Marina Park Way, San Diego, CA 92101	The project proposes construction of a permanent outdoor forum to facilitate concerts and events, including San Diego Symphony performances and rehearsals, guest seating, restrooms, ancillary structures, and public park improvements and amenities.	Proposed, not entitled
79	Navy Coastal Campus		Navy project for training expansion in City of Coronado, north of Imperial Beach	Under construction
80	Various street end projects		Street end improvements (sidewalk, landscaping, decorative improvements, lighting, etc.)	Conceptual Project; Future, unfunded, conceptual plan only
81	South Seacoast Restroom and Shower Facility project (MF 1209)		New comfort station/restroom and shower facility on a street end yet to be determined	Port has prepared a draft feasibility study and concept designs; still under review

Project #	Name	Location	Description	Status
82	IB Resort (MF 1166)	1060 Seacoast Drive, Imperial Beach, CA	New hotel with 100 rooms, restaurant, view bar, patio dining, pool, meeting rooms, rooftop garden, new seawall, and landscaping at 1060 Seacoast Drive	Processing discretionary permits
83	Pier South (Seacoast Inn) (MF 661)	800 Seacoast Drive, Imperial Beach, CA	Hotel with 78 hotel rooms, restaurant, commercial space, seawall, Date Ave improvements at 800 Seacoast Drive	Project completed 2014
84	110 Evergreen Avenue (MF 1169)	110 Evergreen Avenue, Imperial Beach, CA	Mixed-use project with 11 residential units above 3,326 square feet of commercial space at 110 Evergreen Avenue	Discretionary permits approved March 4, 2015; under construction
85	119 Elm Avenue (MF 1170)	117 and 119 Elm Avenue, Imperial Beach, CA	3 new residential units at 117 #01, 117 #02, 119 Elm Avenue	Discretionary permits approved March 4, 2015; under construction
86	951 Seacoast Drive (MF 1149)	951 Seacoast Drive, Imperial Beach, CA	Mixed-use project with 3 residential units above approximately 2,100 square feet of commercial space at 951 Seacoast Drive	Discretionary permits approved July 15, 2015; processing building permits
87	684-686 Ocean Lane (MF 1188)	684-686 Ocean Lane, Imperial Beach, CA	Private project for 2 attached dwelling units; vertical seawall at 684-686 Ocean Lane	Processing discretionary permits
88	812 Ocean Lane (MF 1197)	812 Ocean Lane, Imperial Beach, CA	Private project for 2 attached dwelling units; use existing vertical seawall at 812 Ocean Lane	Discretionary permits approved July 20, 2016; processing building permits
89	Bernardo Shores (MF 1100)	500 Highway 75, Imperial Beach, CA	Replace RV Park with 187 residential units and bike path at 500 Highway 75	Discretionary permits approved by City Council (December 3, 2014) and Coastal Commission (August 13, 2015); processing building permits; grading ongoing
90	Breakwater commercial center (MF 1062)	9 th and Palm Ave, Imperial Beach, CA	45,000 square foot commercial redevelopment project at 9 th and Palm Ave	Under construction

Project #	Name	Location	Description	Status
91	Imperial Beach Library (MF 1067)	810 Imperial Beach Blvd, Imperial Beach, CA	Construct a new, approximately 14,000-square-foot library, including a 2,000 square foot community room, and parking in the 8 th Street right-of-way at 810 Imperial Beach Blvd.	Under construction
92	Improvements on Imperial Beach Blvd. (Seacoast Drive to Connecticut St.)	Imperial Beach Blvd. between Seacoast Drive and Connecticut Street, Imperial Beach, CA	Street improvements on Imperial Beach Blvd. between Seacoast Drive and Connecticut Street	Prop 1 and Active Transportation Program grant applications submitted; no design and unfunded at this time
93	Seacoast lighting project	Seacoast Drive, Imperial Beach, CA	Lighting and aesthetic improvements on Seacoast Drive	No design at this time; not fully scoped
94	Seacoast Drive sewer main improvements	Seacoast Drive, Imperial Beach, CA	Modify sewer mains on Seacoast Drive and potential new lift station	No design at this time; not fully scoped
95	Homeporting Six Zumwalt Class Destroyers at East and West Coast Installations (including Hawaii)	Naval Base San Diego	The project would allow the USS Zumwalt guided-missile destroyer to be homeported at Naval Base San Diego.	First ship expected in San Diego Bay in late 2016.
96	Littoral Combat Ship Homeporting Project	Naval Base San Diego	The Navy proposed to homeport its first twelve Littoral Combat Ships (LCS) at NBSD. The Navy considered the west coast and Hawaii surface combatant homeports for homeporting the LCS. Alternative homeporting locations considered include: Naval Base Kitsap Bremerton/Bangor, Washington; Naval Station Everett, Washington; Naval Base San Diego, California, and Joint Base Pearl Harbor-Hickam, Hawaii. Based on the analysis of these potential locations, only NBSD met the mission, logistic and operational criteria critical to the success of the LCS	Several LCS have arrived in at NBSD since May 2012.

Project #	Name	Location	Description	Status
97	Naval Base Point Loma Fuel Pier Replacement and Dredging	Naval Base Point Loma	<p>program. Furthermore, maintaining a single homeport for the initial twelve ships supports the spiral development concept for the LCS Fleet, provides logistic and operational synergies, facilitates standardization of support procedures and enhances training effectiveness. An EA addressing homeporting the ships and supporting mission modules, permanent assignment of crew, and related facility improvements required to support the homeporting was prepared and a FONSI was signed in 2012.</p> <p>The Proposed Action would involve the demolition and replacement of the existing fuel pier (Pier 180) in San Diego Bay at Naval Base Point Loma. This project would replace the aging, seismically deficient, and increasingly dysfunctional and obsolete fuel Pier 180 with a new fuel pier that would meet current state and Navy seismic construction standards, meet projected ship fueling requirements and enable the Navy and Department of Homeland Security to meet their and national defense mission and security missions. The Proposed Action would also involve sediment dredging with beneficial reuse of the dredge sediments in the nearshore zone at the Navy's Silver Strand Training Complex. The proposed dredging would allow the replacement fuel pier to serve deeper draft ships. An EA was completed for this project and a FONSI was signed in August 2013.</p>	<p>Construction is anticipated to begin in September 2013 and end in January 2017; however there will be no in-water work for this project during the least-tern nesting season each year (1 April through 15 September).</p>
98	Pier 12 Replacement and Dredging	Naval Base San Diego	<p>This project involved demolition of an inadequate existing pier (Pier 12) at NBSD, dredging in berthing and approach areas for the new single-deck pier, dredged material disposal at an approved ocean disposal site and permitted landfill, construction of a new general purpose berthing pier and associated pier utilities, including upgrades to the electrical utilities at adjacent Pier 13, and construction of fish enhancement structures (artificial habitat for fish) using concrete debris from pier demolition. An</p>	<p>Demolition and dredging for this project began in 15 March 2012. Construction was completed October 2013. Dredging was estimated to be completed June 2016.</p>

Project #	Name	Location	Description	Status
			Environmental Assessment (EA) was completed for this project and a FONSI was signed.	
99	Naval Amphibious Base Coronado Maintenance Dredging	Naval Amphibious Base Coronado	This project conducts maintenance dredging around the north side of NAB from the fuel pier to Pier 14 at Pier 21 and on the south side around Piers 16 and 19. Total volume of dredging was 34,493 cubic yards. Of that amount 7,325 cy would be beneficial reused, 3,186 would be disposed of at an approved landfill and the remaining 23,982 cy will be disposed of at an approved location in the ocean. Army Corps of Engineers permit SPL-2015-00315-RRS.	Dredging was expected to begin in September 2015 and end in June 2016.
100	Hawaii-Southern California Training and Testing	San Diego Bay	The Navy evaluated potential environmental effects associated with ongoing military readiness activities, which include training and research, development, testing, and evaluation activities within the Hawaii-Southern California Training and Testing Study Area (which includes San Diego Bay). An EIS (known as Phase II) was completed in December 2013. A Notice of Intent to prepare another EIS (also known as Phase III) was issued on Nov 12, 2015 and public comment period concluded Jan 12, 2016. A draft EIS is being prepared.	
101	Maintenance Dredging at Naval Base San Diego	Naval Base San Diego	This project conducts maintenance dredging at Piers 2, 6, 7, 13 and former Pier 14 and Chollas Creek at NBSD. The total volume to be dredged is approximately 250, 780 cubic yards (cy) with 85,340 cy being disposed of via ocean disposal and the remaining 165,439 cy transported to an approved upland landfill. Army Corps of Engineers Permit (SPL-2013-00405-RRS) approved June 2016.	

*Represents sites that have been identified as having two proposed projects on the same project site. As a result, the project that represents the worst-case scenario has been included in the cumulative analysis for the Proposed Project (i.e., Wyndham Hotel with alternative 205-foot setback park; and San Diego Convention Center Phase III Expansion and Expansion Hotel Project)

Notice of Determination

MAY 26 2017

Appendix D

To:

Office of Planning and Research BY [Signature]
U.S. Mail: Street Address: DEPUTY
P.O. Box 3044 1400 Tenth St., Rm 113
Sacramento, CA 95812-3044 Sacramento, CA 95814

From:

Public Agency: San Diego Unified Port District
Address: 3165 Pacific Highway
San Diego, CA 92101
Contact: Dana Sclar, Senior Planner
Phone: (619) 400-4765

County Clerk

County of: San Diego
Address: 1600 Pacific Highway, Room 260
San Diego, CA 92101

Lead Agency (if different from above):
Address:
Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2015081013

Project Title: San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project

Project Applicant: Jim Hutzelman, San Diego Unified Port District, 3165 Pacific Highway, San Diego, CA 92101, (619) 686-6564

Project Location (include county): San Diego Bay and Imperial Beach Oceanfront, San Diego County

Project Description:

The proposed project consists of (1) an ordinance to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront requiring a discretionary action by the District or that are operated by the District's tenants, and (2) four proposed new fireworks displays, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District. Discretionary actions for fireworks displays that may require District approval include, but are not limited to, the following: Sponsorship agreement, Special event permit, Lease and lease amendment, Tideland Use and Occupancy Permit, Right of Entry Permit, Coastal Act Categorical Determination of Exclusion, and Coastal Development Permit.

This is to advise that the San Diego Unified Port District has approved the above (input checked) Lead Agency or (input unchecked) Responsible Agency)

described project on May 25, 2017 and has made the following determinations regarding the above (date) described project.

- 1. The project (input checked) will (input unchecked) will not] have a significant effect on the environment.
- 2. (input checked) An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA. (input unchecked) A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
- 3. Mitigation measures (input checked) were (input unchecked) were not] made a condition of the approval of the project.
- 4. A mitigation reporting or monitoring plan (input checked) was (input unchecked) was not] adopted for this project.
- 5. A statement of Overriding Considerations (input checked) was (input unchecked) was not] adopted for this project.
- 6. Findings (input checked) were (input unchecked) were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:

San Diego Unified Port District, Clerk's Office, 3165 Pacific Highway, San Diego, CA 92101

Signature (Public Agency): [Signature: Dana Sclar] Title: Senior Planner

Date: 5/26/2017

Date Received for filing at ORR

FILED IN THE OFFICE OF THE COUNTY CLERK

San Diego County on MAY 26 2017

Authority cited: Sections 21083, Public Resources Code
Reference Section 21000-21174, Public Resources Code

Posted MAY 26 2017 Removed Revised 2011

Returned to agency on
Date: [Signature]



State of California - Department of Fish and Wildlife

2017 ENVIRONMENTAL FILING FEE CASH RECEIPT

DFW 753.5a (Rev. 12/15/15) Previously DFG 753.5a

RECEIPT NUMBER: 37-2017- 0433
STATE CLEARINGHOUSE NUMBER (If applicable) --

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY.

LEAD AGENCY SAN DIEGO UNIFIED PORT DISTRICT (SDUPD)	LEAD AGENCY EMAIL --	DATE 05/26/17
--	-------------------------	------------------

COUNTY/STATE AGENCY OF FILING San Diego County	DOCUMENT NUMBER *20170433*
---	-------------------------------

PROJECT TITLE AGREEMENT WITH H.P. PURDON & COMPANY FOR SPONSORSHIP OF 2017 BIG BAY BOOM
JULY 4TH FIREWORKS SHOW

PROJECT APPLICANT NAME H.P. SANDY PURDON, H.P. PURDON & COMPANY, INC. DBA BIG BAY BOOM	PROJECT APPLICANT EMAIL --	PHONE NUMBER (619)822-1177
---	-------------------------------	-------------------------------

PROJECT APPLICANT ADDRESS 747 GOLDEN PARK AVENUE	CITY SAN DIEGO	STATE CA	ZIP CODE 92106
---	-------------------	-------------	-------------------

PROJECT APPLICANT (Check appropriate box)

Local Public Agency School District Other Special District State Agency Private Entity

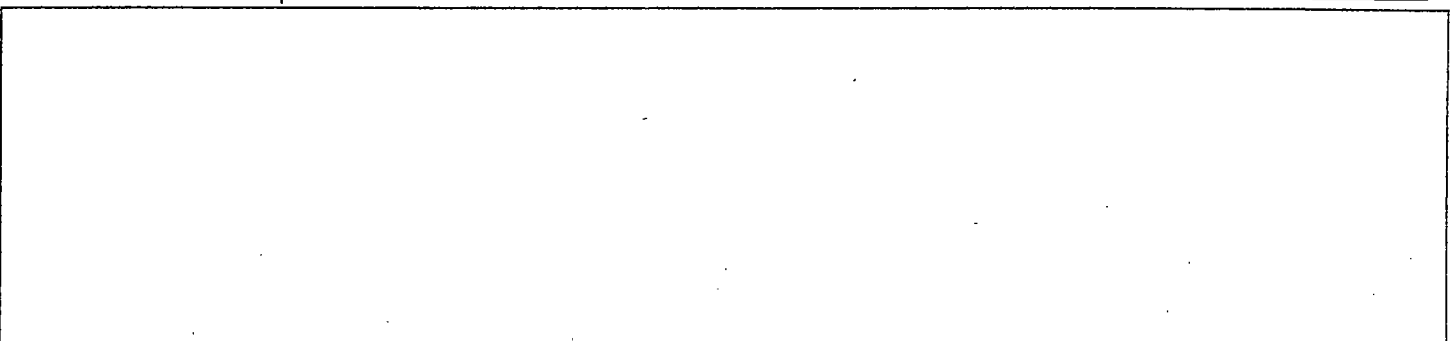
CHECK APPLICABLE FEES:

<input type="checkbox"/> Environmental Impact Report (EIR)	\$3,078.25	\$ _____
<input type="checkbox"/> Mitigated/Negative Declaration (MND)(ND)	\$2,216.25	\$ _____
<input type="checkbox"/> Certified Regulatory Program document (CRP)	\$1,046.50	\$ _____
<input type="checkbox"/> Exempt from fee		
<input checked="" type="checkbox"/> Notice of Exemption (attach)		
<input type="checkbox"/> CDFW No Effect Determination (attach)		
<input type="checkbox"/> Fee previously paid (attach previously issued cash receipt copy)		
<hr/>		
<input type="checkbox"/> Water Right Application or Petition Fee (State Water Resources Control Board only)	\$850.00	\$ _____
<input checked="" type="checkbox"/> County documentary handling fee		\$ 50.00
<input type="checkbox"/> Other		\$ _____

PAYMENT METHOD:

Cash Credit Check Other 67904488 TOTAL RECEIVED \$ 50.00

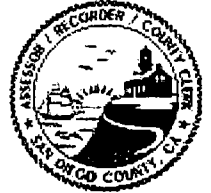
SIGNATURE X	AGENCY OF FILING PRINTED NAME AND TITLE San Diego County JOBELL L RUSIT , Deputy
-----------------------	---





Ernest J. Dronenburg, Jr.

COUNTY OF SAN DIEGO
ASSESSOR/RECORDER/COUNTY CLERK



ASSESSOR'S OFFICE

1600 Pacific Highway, Suite 103
San Diego, CA 92101-2480
Tel. (619) 236-3771 * Fax (619) 557-4056

www.sdarcc.com

RECORDER/COUNTY CLERK'S OFFICE

1600 Pacific Highway, Suite 260
P.O. Box 121750 * San Diego, CA 92112-1750
Tel. (619)237-0502 * Fax (619)557-4155

Transaction #: 385260420170526

Deputy: JRUSIT

Location: COUNTY ADMINISTRATION BUILDING

26-May-2017 10:32

FEES:

3,078.25	Qty of 1 Fish & Game Env Impact (2500) for Ref# 2017 0084
50.00	Qty of 1 Fish and Game Filing Fee for Ref# 2017 0432
<hr/>	
3,128.25	TOTAL DUE

PAYMENTS:

3,128.25	Check
<hr/>	
3,128.25	TENDERED

SERVICES AVAILABLE AT OFFICE LOCATIONS

- * Tax Bill Address Changes
- * Records and Certified Copies:
Birth/ Marriage/ Death/ Real Estate
- * Fictitious Business Names (DBAs)

SERVICES AVAILABLE ON-LINE AT www.sdarcc.com

- * Forms and Applications
- * Frequently Asked Questions (FAQs)
- * Grantor/ Grantee Index
- * Fictitious Business Names Index (DBAs)

WARNING! DO NOT ACCEPT THIS CHECK UNLESS YOU CAN SEE A TRUE WATERMARK WHEN HOLDING THE CHECK TO THE LIGHT AND PINK LOCK AND KEY ICONS THAT FADE WHEN WARMED



SAN DIEGO UNIFIED PORT DISTRICT
P.O. BOX 120488 - SAN DIEGO, CALIFORNIA 92112-0488

WELLS FARGO BANK, N.A.
11-24/1210

Date	Check No	Amount
05/17/2017	174131	\$*****3,128.25

THE SUM OF \$*******3,128.25** DOLLARS
ZERO ZERO ZERO ZERO THREE ONE TWO EIGHT USD and TWENTY-FIVE Cents

PAY TO THE ORDER

COUNTY OF SAN DIEGO
1600 PACIFIC HWY RM 260
SAN DIEGO CA 92101

TREASURER
Robert DeAngelis

66733

⑈ 174131⑈ 1:121000248: 4121219422⑈

RESOLUTION 2017-075

RESOLUTION TO CERTIFY FINAL ENVIRONMENTAL IMPACT REPORT, ADOPT FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS, ADOPT MITIGATION MONITORING AND REPORTING PROGRAM, AND DIRECT FILING OF NOTICE OF DETERMINATION

WHEREAS, the San Diego Unified Port District (District) is a public corporation created by the Legislature in 1962 pursuant to Harbors and Navigation Code Appendix I (Port Act); and

WHEREAS, Section 21 of the Port Act states that the Board of Port Commissioners (Board) may pass all necessary ordinances and resolutions for the regulation of the District; and

WHEREAS, Section 35 of the Port Act states that the Board may do all other acts necessary and convenient for the exercise of its powers; and

WHEREAS, fireworks display events have been occurring for many years at several locations within San Diego Bay and the Imperial Beach Oceanfront, including off Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), and the National Steel and Shipbuilding Company (NASSCO) facility, as well as along the Coronado Bayfront within Glorietta Bay (an inlet of San Diego Bay adjacent to Coronado Island) and off the Imperial Beach Pier; and

WHEREAS, in the interest of protecting the environment and the public health, safety and welfare, the District has proposed the adoption of an ordinance that establishes policies, performance standards and other requirements that would apply to all fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach and require a discretionary action by the District or are operated by the District's tenants (Proposed Ordinance); and

WHEREAS, the District has proposed four additional new fireworks display events, including three along the Chula Vista Bayfront and one along the National City Bayfront, which also would be subject to the Proposed Ordinance; and

WHEREAS, the Proposed Ordinance and the proposed four additional new fireworks display events along the Bayfront in Chula Vista and National City are collectively referred to as the "Proposed Project"; and

WHEREAS, pursuant to the California Environmental Quality Act

("CEQA"), Public Resources Code Section 21000, et seq., and its implementing regulations, 14 California Code of Regulations Section 15000, et seq. ("CEQA Guidelines"), the District prepared a Draft Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115; SCH #2015081013) for the Proposed Project ("Draft EIR"), which was made available for public review and comment as required by law in March 2017; and

WHEREAS, the District received comments letters concerning the Draft EIR from several public agencies and organizations and, pursuant to CEQA Guidelines section 15088, the District has prepared written responses to all comments received on the Draft EIR during the public comment period which raised environmental issues; and

WHEREAS, the District has determined that the comments received on the Draft EIR do not contain any significant new information within the meaning of CEQA Guidelines section 15088.5 and therefore recirculation of the Draft EIR is not required; and

WHEREAS, the District has prepared a Final Environmental Impact Report ("Final EIR") which contains the information required by CEQA Guidelines section 15132, including the Draft EIR and the revisions and additions thereto, technical appendices, public comments and the District's responses to public comments on the Draft EIR, and which has been filed with the District Clerk; and

WHEREAS, pursuant to CEQA Guidelines sections 15091, 15093 and 15097, the District has prepared Findings of Fact and a Statement of Overriding Considerations and a Mitigation Monitoring and Reporting Program, which have been filed with the District Clerk; and

WHEREAS, the District Clerk has caused notice to be duly given of a public hearing in this matter in accordance with law, as evidenced by the affidavit of publication and affidavit of mailing on file with the District Clerk; and

WHEREAS, all materials with regard to the Proposed Project were made available to the Board for its review and consideration of the Proposed Project including, but not limited to, the following:

1. The Draft EIR and appendices, dated March 2017;
2. The Final EIR and its appendices, dated May 2017;
3. The Staff Report and Agenda Sheet, dated May 25, 2017;
4. The proposed Findings of Fact and Statement of Overriding Considerations, dated May 2017;

5. The proposed Mitigation Monitoring and Reporting Program, dated May 2017; and

6. All documents and records filed in this proceeding by the District and other interested parties;

WHEREAS, a duly noticed public hearing was held on May 25, 2017, before the Board, at which the Board received public testimony, reviewed and considered all testimony and materials made available to the Board regarding the Proposed Project; and

WHEREAS, having reviewed and considered all testimony and materials made available to the Board, including but not limited to the Final EIR, the staff reports and all the testimony and evidence in the record of the proceedings with respect to the Proposed Project, the Board took the actions hereinafter set forth.

NOW, THEREFORE, BE IT RESOLVED by the Board of Port Commissioners of the San Diego Unified Port District, as follows:

1. The Board finds the facts recited above are true and further finds that this Board has jurisdiction to consider, approve and adopt the subject of this Resolution.

2. The Board finds and determines that the applicable provisions of CEQA, its implementing State Guidelines, and District Guidelines have been duly observed in conjunction with said hearing and the considerations of this matter and all of the previous proceedings related thereto.

3. The Board finds and determines that (a) the Final EIR is complete and adequate in scope and has been completed in compliance with CEQA and the State and District Guidelines for implementation thereof, (b) the Final EIR was presented to the Board, and the Board has fully reviewed and considered the information in Final EIR prior to approving the Proposed Project, (c) the Final EIR reflects the District's independent judgment and analysis, and, therefore, the Final EIR is hereby declared to be certified in relation to the subject of this Resolution.

4. The Board finds and determines that the Proposed Project is approved despite the existence of certain significant environmental effects identified in the Final EIR and, pursuant to Public Resources Code Section 21081 and CEQA Guidelines Section 15091, the Board hereby makes and adopts the findings with respect to each significant environmental effect as set forth in the Findings of Fact, appended hereto as Exhibit "A" and made a part hereof by this reference, and declares that it considered the evidence described in connection with each such finding.

5. The Board further finds and determines that the Proposed Project is approved despite the existence of certain unavoidable significant environmental effects identified in the Final EIR, and, pursuant to Public Resources Code section 21081(b) and CEQA Guidelines section 15093, the Board hereby makes and adopts the Statement of Overriding Considerations appended hereto as Chapter 7.0 of Exhibit A and made part hereof by this reference, and finds that such effects are considered acceptable because the benefits of the Proposed Project outweigh the unavoidable environmental effects.

6. Pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15091(d), the Board hereby adopts and approves the Mitigation Monitoring and Reporting Program, which is appended hereto as Exhibit "B" and is made a part hereof by this reference, with respect to the significant environmental effects identified in the Final EIR, and hereby makes and adopts the provisions of the Mitigation Monitoring and Reporting Program as conditions of approval for the Proposed Project.

7. Pursuant to Public Resources Code Section 21152 and CEQA Guidelines Section 15094, the Clerk of the Board shall cause a Notice of Determination to be filed with the Clerk of the County of San Diego and the State Office of Planning and Research. Unless the Proposed Project is declared exempt herein and a Certificate of Filing Fee Exemption is on file, the Proposed Project is not operative, vested or final until the filing fees required pursuant to Fish and Game Code Section 711.4 are paid to the Clerk of the County of San Diego.

8. Pursuant to Public Resources Code Section 21081.6(a)(2) and CEQA Guidelines Section 15091(e), the location and custodian of the documents and other materials which constitute the record of proceedings on which this Resolution is based is the Clerk, San Diego Unified Port District, 3165 Pacific Highway, San Diego, California 92101.

Attachments:

Exhibit A: Findings of Fact and Statement of Overriding Considerations

Exhibit B: Mitigation Monitoring and Reporting Program

APPROVED AS TO FORM AND LEGALITY:
GENERAL COUNSEL

By: Assistant/Deputy

A handwritten signature in blue ink, appearing to read "Rebecca S. [unclear]", is written over a horizontal line. The signature is stylized and cursive.

2017-075

PASSED AND ADOPTED by the Board of Port Commissioners of the San Diego Unified Port District, this 25th day of May, 2017, by the following vote:

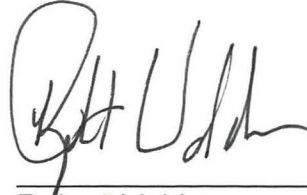
AYES: Bonelli, Castellanos, Malcolm, Merrifield, Moore, and Valderrama

NAYS: None.

EXCUSED: None.

ABSENT: None.

ABSTAIN: None.



Robert Valderrama, Chair
Board of Port Commissioners

ATTEST:



Timothy A. Deuel
District Clerk

(Seal)

Exhibit A to Resolution No. 2017-075
Attachment A

**THE BOARD OF PORT COMMISSIONERS
OF THE
SAN DIEGO UNIFIED PORT DISTRICT**

**FINDINGS OF FACT
AND
STATEMENT OF OVERRIDING CONSIDERATIONS
FOR
SAN DIEGO BAY AND
IMPERIAL BEACH OCEANFRONT
FIREWORKS DISPLAY EVENTS PROJECT**

**FINAL ENVIRONMENTAL IMPACT REPORT
(UPD #EIR-2015-115; SCH #2015081013)**

May 2017

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**FINDINGS OF FACT AND
STATEMENT OF OVERRIDING CONSIDERATIONS
FOR THE
SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT
FIREWORKS DISPLAY EVENTS PROJECT
FINAL ENVIRONMENTAL IMPACT REPORT
(UPD #EIR-2015-115; SCH #2015081013)**

INTRODUCTION

The Board of Port Commissioners of the San Diego Unified Port District ("District") hereby makes the following Findings and Statement of Overriding Considerations concerning the Final Environmental Impact Report (UPD #EIR-2015-115; SCH #2015081013) for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project ("proposed project"), pursuant to the California Environmental Quality Act, Public Resources Code §21000, *et seq.* ("CEQA"), and its implementing regulations, California Code of Regulations, title 14, §15000, *et seq.* ("CEQA Guidelines").

The Final Environmental Impact Report ("Final EIR") prepared for the proposed project consists of the following:

- Volume I contains the Final EIR, which is composed of the following:
 - Chapter 1 is an introduction to the Final EIR;
 - Chapter 2 contains the final Executive Summary and Summary of Impacts and Mitigation Measures for the proposed project, and a list of public agencies, organizations, and persons commenting on the Draft EIR;
 - Chapter 3 contains the errata and revisions to the Draft EIR and Ordinance;
 - Chapter 4 contains comments received on the Draft EIR and the District's responses to those comments; and
 - Chapter MMRP contains the Mitigation Monitoring and Reporting Program.
- Volume II contains the Draft EIR.
- Volume III contains the appendices to the Draft EIR.

1.0 PROJECT DESCRIPTION

1.1 Project Overview

The proposed San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (herein referred to as the proposed project) consists of (1) an ordinance establishing a San Diego Unified Port District (District) Code section (proposed ordinance) to govern existing and proposed new fireworks display events that occur throughout the year in and around San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants, and (2) four proposed new fireworks display events, which would be located adjacent to the National City and Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District. Discretionary actions for fireworks display events that may require District approval include, but are not limited to, the following:

- Sponsorship agreement
- Special event permit
- Lease and lease amendment
- Tideland Use and Occupancy Permit
- Right-of-Entry Permit
- Coastal Act Categorical Determination of Exclusion
- Coastal Development Permit

Fireworks display events that require a discretionary action by the District or are operated by the District's tenants have been occurring on the Fourth of July and at other times throughout the year for more than a decade. The most prominent existing fireworks display events are the annual Fourth of July Big Bay Boom in San Diego Bay and the Fourth of July Imperial Beach Fireworks Show. Furthermore, the Fireworks Show Over Glorietta Bay is an existing display whose fireworks organizers may seek to obtain funding from the District in the future, which would require a discretionary action by the District. Existing fireworks display events that occur at other times throughout the year include those associated with the San Diego Symphony's Summer Pops concert series (multiple small displays) and the Our Lady of Rosary Church annual procession, along with the U.S.S. Midway Aircraft Carrier Museum (U.S.S. Midway Museum) (multiple small displays) and General Dynamics National Steel and Shipbuilding Company (NASSCO) displays. A description of the operational characteristics of each of these existing displays is provided in Volume II (Draft EIR), Tables 2-1 and 2-2, respectively, of Chapter 2, *Environmental Setting*. These fireworks display events would be subject to the proposed ordinance.

1.2 Fireworks Display Event Locations

Existing Fireworks Display Events

Existing fireworks display events currently occur at several locations within San Diego Bay, a natural harbor and deep-water port in southern San Diego County, and the Imperial Beach Oceanfront. San Diego Bay is an active maritime environment that provides passage and berthing for numerous types of boats and vessels, including small recreational boats that moor at dock marinas and open anchorage marinas within the Bay, mid-sized vessels such as private yachts and harbor cruise boats, and large vessels that consist of naval ships, cruise ships, cargo ships, and shipping barges. Fireworks display events within San Diego Bay take place off Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), and the NASSCO ship repair facility. In addition, fireworks display events take place along the Coronado Bayfront within Glorietta Bay (an inlet of San Diego Bay adjacent to Coronado Island) and the Imperial Beach Oceanfront.

Proposed New Fireworks Display Events

There are currently no fireworks display events along the National City or Chula Vista Bayfronts. Along the National City Bayfront, it is anticipated that future fireworks display events would take place from a barge within view of Pepper Park because Pepper Park is the closest publicly accessible gathering space near the National City Bayfront that would have a partial view of the fireworks. Pepper Park is located along Tidelands Avenue in National City. The site is adjacent to the Sweetwater Channel, north of the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge, which includes Paradise Creek to the east and D Street Fill to the south, south of the National City Marine Terminal, east of San Diego Bay, and west of Pier 32 Marina. Interstate 5 (I-5) runs northeasterly approximately 0.4 mile from the park site boundary. Pepper Park site access is provided via Tidelands Avenue, which turns into Goesno Place as it approaches the park. One fireworks display event, likely a Fourth of July event, may occur along the National City Bayfront and is anticipated to involve the placement of a single, temporary barge in the Bay and within view of Pepper Park.

Along the Chula Vista Bayfront, it is anticipated that fireworks display events would take place from a barge within view of both the Chula Vista Bayside Park and the Chula Vista Bayfront Park. Bayside Park is a waterfront park accessed by Bayside Parkway. It is bounded to the north by a boatworks facility, to the south by a man-made inlet that contains marinas, to the east by a recreational vehicle (RV) park, and to the west by San Diego Bay. Bayfront Park is on the south side of the man-made inlet and is bounded to the south and west by San Diego Bay and to the east by the marinas of the man-made inlet as well as vacant land. The park is accessed by Marina Way. I-5 is approximately 0.5 mile

to the east of the Chula Vista Bayfront. A total of three fireworks display events (including one on the Fourth of July) along the Chula Vista Bayfront area are allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan and are anticipated to involve the placement of a single, temporary barge in the Bay in the vicinity of the two parks.

1.3 Project Components

Proposed Ordinance

As stated above, the proposed project consists of an ordinance to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants.

The proposed ordinance addresses the following:

- Permit procedures and requirements for the conduct of fireworks displays
- Compliance with applicable federal, state, and local laws and regulations governing fireworks, including, but not limited to:
 - Code of Federal Regulations
 - Clean Water Act
 - California Health and Safety Code
 - California Code of Regulations
 - CEQA
 - California Coastal Act
- Compliance with applicable federal, state, and local plans and permits governing fireworks, including, but not limited to:
 - San Diego Regional Water Quality Control Board's (SDRWQCB's) General Permit for Public Display of Fireworks (Order No. R9-2011-0022)
 - District's Climate Action Plan
 - District's Stormwater Management and Discharge Control Code
 - Integrated Natural Resources Management Plan
 - Chula Vista Bayfront Master Plan Natural Resources Management Plan
- Consistency with the features and characteristics of each individual fireworks display event analyzed, including, but not limited to:
 - Allowable launch site locations for individual displays
 - Total pounds of fireworks for individual displays
 - Allowable shell size(s) for individual displays
 - Frequency of individual displays
 - Duration of individual displays

- Compliance with the applicable mitigation measures identified in the Mitigation Monitoring and Reporting Program (MMRP) for the proposed project

Project Operations

A number of fireworks display events occur year-round in and around San Diego Bay and the Pacific Ocean near Imperial Beach. A list of these fireworks display events is provided within Volume II (Draft EIR), Table 2-1 of Chapter 2, *Environmental Setting*. These fireworks display events would be subject to the proposed ordinance.

In addition to the existing fireworks display events, the proposed ordinance would govern four proposed new fireworks display events, including three displays along the Chula Vista Bayfront as allowed under the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and one Fourth of July display along the National City Bayfront. The three proposed fireworks display events along the Chula Vista Bayfront include one Fourth of July display and two non-Fourth of July displays. It is anticipated that the District would consider annually whether or not to provide event sponsorship and/or issue a Special Event Permit, Right-of-Entry Permit, Tideland Use and Occupancy Permit, Coastal Development Permit, Coastal Act Categorical Determination of Exclusion, or other similar approval for these proposed new fireworks display events. These proposed new fireworks display events are anticipated to last approximately 3 to 10 minutes for non-Fourth of July displays and 15 to 20 minutes for Fourth of July displays, and the fireworks are anticipated to be launched from barges within San Diego Bay.

The proposed new fireworks display events are identified in Chapter 2, *Executive Summary*, of the Final EIR (see Table 2-1). The total pounds of fireworks estimated for each proposed new fireworks display event are also identified in Chapter 2, *Executive Summary*, of the Final EIR (see Table 2-2).

Because the proposed ordinance would require consistency with the features and characteristics of each individual fireworks display event analyzed in the Final EIR, including, but not limited to, the total net explosive weight (NEW) in pounds of fireworks and durations for individual displays, the values provided in Table 2-2 of the Final EIR represent the maximum allowable pounds of fireworks and durations for the proposed new displays along the Chula Vista and National City Bayfronts assumed in the Final EIR.

Similarly, because the proposed ordinance would also govern the existing fireworks display events identified above, the values provided in Draft EIR Chapter 2, *Environmental Setting*, Table 2-2 also represent the maximum allowable pounds of fireworks for each existing fireworks display event assumed in the Final EIR. If an existing fireworks display event identified in Draft EIR Chapter 2, *Environmental Setting*, Tables 2-1 and 2-2 is proposed to be modified in the future, a new additional fireworks display event is proposed that was not

analyzed in the Final EIR, or any of the characteristics provided in Final EIR Tables 2-1 and 2-2 (e.g., location, magnitude [shell size and pounds] and/or duration) of the four proposed new fireworks display events are proposed to be modified, the fireworks display event will be subject to additional environmental review, pursuant to CEQA Guidelines Section 15168(c).

1.4 Project Objectives

The District has identified the following objectives for the proposed project.

1. To develop a District ordinance that establishes policies, performance standards, and other requirements that would be applied to fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach and require a discretionary action by the District or are operated by the District's tenants;
2. To allow for the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants, including on the Fourth of July, providing a popular and region-wide way to celebrate and express civic pride;
3. To allow for the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants in a manner that considers the health, safety, and welfare of people, property, and the environment; and
4. To continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available.

2.0 ENVIRONMENTAL PROCEDURES

2.1 Lead Agency

Pursuant to CEQA Guidelines §15367, the District is the “lead agency” for the purpose of preparing the environmental review required by CEQA. The environmental review prepared by the District will be used by the Board of Port Commissioners in connection with its decisions to certify the EIR and adopt an ordinance establishing a proposed ordinance to govern fireworks display events.

The California State Lands Commission (CSLC) and California Department of Fish and Wildlife (CDFW) are trustee agencies, as defined in CEQA Guidelines §15386. CSLC may have an interest in the proposed project, but would not issue approvals or permits that would be required to implement the project. CSLC has jurisdiction and management control over those public trust lands of the state received by the state upon its admission to the United States in 1850. CSLC has jurisdiction over submerged lands within San Diego Bay that are not under the jurisdiction of the District. Several of the barges for the existing fireworks display events are situated within CSLC jurisdiction. However, because the barges are not anchored or moored, a lease or any other similar approval is not required from CSLC. It is anticipated that CDFW may have an interest in the proposed project; however, CDFW would not issue approvals or permits that would be required to implement the proposed project.

2.2 Environmental Impact Report

Pursuant to CEQA Guidelines §15080, *et seq.*, the District prepared an Environmental Impact Report (“EIR”) to analyze the potential impacts of the proposed project on the environment. The Final EIR contains all of the information required by CEQA Guidelines §15132, including the Draft EIR and the appendices to the Draft EIR.

2.3 Public Participation

Environmental review of the proposed project began on August 7, 2015, with the publication of a Notice of Preparation of the EIR and a 30-day public review period. The District held a public scoping meeting on August 25, 2015. The Draft EIR was completed and a Notice of Availability for public review was posted on March 17, 2017. A 45-day public review period began on March 17, 2017, and ended on May 2, 2017. Five public agencies and five private organizations submitted written comments on the Draft EIR during the public comment period. No comment letters were received from individual persons.

These comments and the District’s responses to them are included in Chapter 4 of the Final EIR as required by CEQA Guidelines §§15088 and 15132. The Final EIR was completed and the District’s responses to comments were made available for review on May 12, 2017. A public hearing concerning certification of the Final EIR was held by the Board of Port Commissioners of the District on

May 25, 2017, at which interested agencies, organizations, and individuals were given an opportunity to comment on the Final EIR and the project.

2.4 Record of Proceedings

For purposes of CEQA and the findings set forth below, the administrative record of the District's decision concerning certification of the Final EIR for the project shall include the following:

- The Draft EIR (March 2017);
- The Final EIR (May 2017);
- The appendices to the Draft EIR and the Final EIR;
- All documents and other materials listed as references and/or incorporated by reference in the Draft EIR and Final EIR, including but not limited to the materials identified in the Draft EIR, Chapter 9 (*References*);
- All reports, applications, memoranda, maps, letters, and other documents prepared by the District's staff and consultants for the proposed project which are before the Board of Port Commissioners as determined by the Clerk;
- All documents or other materials submitted by interested persons and public agencies in connection with the Draft EIR and the Final EIR;
- The minutes, tape recordings, and verbatim transcripts, if any, of the public hearing held on May 25, 2017, concerning the Final EIR and the proposed project; and
- Matters of common knowledge to the Board of Port Commissioners and the District, including but not limited to the Port Master Plan.

The custodian of the documents and other materials composing the administrative record of the District's decision concerning certification of the Final EIR is the Clerk of the Board of Port Commissioners. The location of the administrative record is the Port District's office at 3165 Pacific Highway, San Diego, California 92101. (Public Resources Code §21081.6(a)(2).)

3.0 FINDINGS UNDER CEQA

3.1 Purpose

CEQA requires the District to make written findings of fact for each significant environmental impact identified in the Final EIR (CEQA Guidelines §15091). The purpose of the findings is to systematically restate the significant effects of the proposed project on the environment and to determine the feasibility of mitigation measures and alternatives identified in the Final EIR that would avoid or substantially lessen the significant effects. Once it has adopted sufficient measures to avoid or substantially lessen a significant impact, the District is not required to adopt every mitigation measure identified in the Final EIR or otherwise brought to its attention. If significant impacts remain after application of all feasible mitigation measures, the District must review the alternatives identified in the Final EIR and determine if they are feasible. These findings set forth the reasons, and the evidence in support of, the District's determinations.

3.2 Terminology

A "finding" is a written statement made by the District that explains how it dealt with each significant impact and alternative identified in the Final EIR. Each finding contains an ultimate conclusion regarding each significant impact, substantial evidence supporting the conclusion, and an explanation of how the substantial evidence supports the conclusion.

For each significant effect identified in the Final EIR, the District is required by CEQA Guidelines §15091(a) to make a written finding reaching one or more of the following conclusions:

- (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant effect identified in the EIR;
- (2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency; or
- (3) Specific legal, economic, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

A mitigation measure or an alternative is considered "feasible" if it is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. (CEQA Guidelines §15364.) The concept of "feasibility" also encompasses the question whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417.) "[F]easibility under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological

factors.” (*Ibid.*; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715.)

With respect to a project for which significant impacts are not avoided or substantially lessened either through the adoption of feasible mitigation measures or a feasible alternative, a public agency, after adopting proper findings, may nevertheless approve the project if the agency adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project’s benefits rendered acceptable its unavoidable adverse environmental effects. (CEQA Guidelines §§15093, 15043 (b); see also Pub. Resources Code §21081 (b).) The California Supreme Court has stated, “[t]he wisdom of approving...any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced.” (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 576.)

A statement of overriding considerations is required for the approved project because, despite implementation of all feasible mitigation measures, the project as approved will have significant impacts on hydrology and water quality; noise and vibration; and transportation, circulation, and parking that cannot be determined with certainty to be avoided or reduced to a less-than-significant level.

3.3 Legal Effect

To the extent these findings conclude mitigation measures identified in the Final EIR are feasible and have not been modified, superseded, or withdrawn, the District hereby binds itself and any other responsible parties, including future project applicants and their successors in interest, to implement those mitigation measures. These findings are not merely informational, but constitute a binding set of obligations upon the District and responsible parties, which will take effect if and when the District adopts a resolution certifying the Final EIR and the District adopts resolution(s) approving the project.

3.4 Mitigation Monitoring and Reporting Program

In adopting these findings, the District also adopts an MMRP pursuant to Public Resources Code §21081.6 and CEQA Guidelines §15097. This program is designed to ensure the proposed project complies with the feasible mitigation measures identified below during implementation of the approved project. The program is set forth in the “Mitigation Monitoring and Reporting Program for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events project,” which is adopted by the District concurrently with these findings and is incorporated herein by this reference (Final EIR Chapter MMRP, *Mitigation Monitoring and Reporting Program*).

4.0 FINDINGS REGARDING DIRECT SIGNIFICANT EFFECTS

The proposed project will result in direct significant environmental effects with respect to air quality and health risk; biological resources; hydrology and water quality; noise and vibration; and transportation, circulation, and parking. These significant environmental effects, and the mitigation measures identified to avoid or substantially lessen them, are discussed in detail in the Final EIR, Chapter 3, *Errata and Revisions*; and Volume II (Draft EIR), Sections 4.2 (*Air Quality and Health Risk*), 4.3 (*Biological Resources*), 4.6 (*Hydrology and Water Quality*), 4.8 (*Noise and Vibration*), and 4.10 (*Transportation, Circulation, and Parking*). A summary of significant impacts and mitigation measures for the project is set forth in the Final EIR, Chapter 2, *Executive Summary*, Table 2-4.

Set forth below are the findings regarding the potential direct significant effects of the approved project. The findings incorporate by reference the discussion of potential significant impacts and mitigation measures contained in the Final EIR. The Final EIR, which includes the Draft EIR and appendices, is referred to in the findings below as the "EIR."

4.1 Air Quality and Health Risk

4.1.1 Impact-AQ-1: Emissions in Excess of PM2.5 Thresholds during Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events.

Potentially Significant Impact: The EIR identifies a potentially significant impact on air quality and health risk (Impact-AQ-1) in that emissions in excess of particulate matter 2.5 microns or less in diameter (PM2.5) thresholds may occur during combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events.

Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County Significance Level Thresholds (SLTs) for PM2.5. The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by the San Diego Air Pollution Control District (SDAPCD) to attain the PM2.5 National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).

Detailed information and analysis regarding this significant potential impact are provided in Volume II (Draft EIR), Section 4.2, *Air Quality and Health Risk*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on air quality and health risk identified as Impact-AQ-1 in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on air quality and health risk (Impact-AQ-1) is analyzed in Volume II (Draft EIR), Section 4.2, *Air Quality and Health Risk*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-AQ-1 will result from emissions in excess of PM2.5 thresholds during combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events. Project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County SLTs for PM2.5. The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by SDAPCD to attain the PM2.5 NAAQS and CAAQS.

The potential significant impact on air quality and health risk (Impact-AQ-1) can be reduced to a level below significance by implementation of Mitigation Measure MM-AQ-1 and reduced further by implementation of MM-AQ-2. These mitigation measures are fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR and are briefly described as follows:

MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events in Compliance with the Conditions of the Proposed Ordinance; the size of Fourth of July Fireworks Display Events at National City and Chula Vista are not to exceed 400 pounds of fireworks.

MM-AQ-2: Implement Air Quality-Related Conditions of the Proposed Ordinance; fireworks display events shall implement Best Management Practices (BMPs) for fireworks display event preparation, discharge and clean-up; and alternative fireworks produced with pyrotechnic formulas shall be used which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke, and reduce pollutant waste loading to surface waters.

4.1.2 Impact-AQ-2: Cumulative Emissions in Excess of PM2.5 Thresholds during Combined Fourth of July Fireworks Display Events

Potentially Significant Impact: Project emissions during new Fourth of July fireworks display events, before mitigation, would exceed the threshold for PM2.5 and, when combined with other nearby past, present, and probable future projects, may result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable state ambient air quality standard. The contribution of project-related emissions is considered significant because the proposed project would exceed thresholds that have been set by SDAPCD to attain the CAAQS during Fourth of July fireworks display events. Detailed information and analysis regarding this significant potential impact are provided in Volume II (Draft EIR), Section 4.2, *Air Quality and Health Risk*, with revisions and clarifications in Final EIR Chapter 3 *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on air quality and health risk identified as Impact-AQ-2 in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on air quality and health risk (Impact-AQ-2) is analyzed in Volume II (Draft EIR), Section 4.2, *Air Quality and Health Risk*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-AQ-2, before mitigation, will result in the exceedance of the threshold for PM_{2.5} and, when combined with other nearby past, present, and probable future projects, may result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable state ambient air quality standard. The contribution of project-related emissions is considered cumulatively considerable because the project would exceed thresholds that have been set by SDAPCD to attain the CAAQS during Fourth of July fireworks display events.

The potential significant impact on air quality and health risk (Impact-AQ-1) can be reduced to below a level of significance by implementation of Mitigation Measure MM-AQ-1 and reduced further by implementation of MM-AQ-2, as set forth in full in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR and described above in Section 4.1.1.

4.2 Biological Resources

4.2.1 Impact-BIO-1: Potential Direct Impact on Marine Reptiles from Fireworks-Generated Trash and Debris.

Impact-BIO-3: Potential Direct Impact on Avian Species from Fireworks-Generated Trash and Debris.

Potentially Significant Impact: The EIR identifies potentially significant direct impacts on biological resources (Impact-BIO-1 and Impact-BIO-3) associated with the introduction of fireworks-generated trash and debris that could cause injury to green sea turtles and avian species, because these species may mistakenly consume the waste, which could cause suffocation, starvation, or debilitation. Detailed information and analysis regarding these potential significant impacts are provided in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental impacts on biological resources (Impact-BIO-1 and BIO-3) as identified in the EIR.

Facts in Support of Finding: The potential significant impacts of the proposed project on biological resources (Impact-BIO-1 and Impact-BIO-3) are analyzed in

Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-BIO-1 and Impact-BIO-3 will result from the proposed new fireworks display events that would introduce fireworks-generated trash and debris, which in turn has the potential to cause injury to green sea turtles and avian species from the consumption of the waste materials, which could cause suffocation, starvation, or debilitation.

The potential significant impact on *Biological Resources* (Impact-BIO-1 and Impact-BIO-3) under the proposed project will be mitigated to a less-than-significant level by implementing Mitigation Measure MM-BIO-1 and reduced further by MM-BIO-4. These mitigation measures are set forth in full in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR and are briefly described below.

MM-BIO-1: Implementation of Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts. The fireworks organizer and operator are required to comply with the numerous biological resources-related conditions of the proposed ordinance, including (but not limited to): requirements concerning fireworks chemical composition and packaging, BMPs (such as providing cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks), and compliance with San Diego Water Board General Permit and other required permits and laws.

MM-BIO-4: Fireworks Biological Monitoring Plan. Not less than 30 days before any fireworks display event in the South Bay that would occur within 1 mile of sensitive avian nesting colonies, the fireworks organizer shall submit to the District an Avian Species Nesting Colony Monitoring Plan (Monitoring Plan). The Monitoring Plan shall be prepared by a qualified biologist and approved by the District in coordination with the U.S. Fish and Wildlife Service and CDFW. The Monitoring Plan shall identify the monitoring protocol that will be used to assess the effectiveness of mitigation measures **MM-BIO-1** and **MM-BIO-2**.

4.2.2 Impact-BIO-2: Potential Indirect Impacts on Marine Reptiles from Increased Human and Boating Activity.

Impact-BIO-4: Potential Indirect Impacts on Special-Status Avian Species from Increased Human and Boating Activity.

Potentially Significant Impact: The EIR identifies potentially significant indirect impacts on biological resources (Impact-BIO-2 and Impact-BIO-4) as a result of increased foot traffic on sand dunes and beaches that can cause disturbance to nesting sites during and immediately after the proposed new fireworks display events. Detailed information and analysis regarding these potential significant impacts are provided in Volume II (Draft EIR), Section 4.3, *Biological Resources*,

with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on biological resources (Impact-BIO-2 and BIO-4) as identified in the EIR.

Facts in Support of Finding: The potential significant impacts of the proposed project on biological resources (Impact-BIO-2 and Impact-BIO-4) are analyzed in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. The proposed new fireworks display events have the potential to result in indirect impacts on marine reptiles (green sea turtles) and special-status avian species (particularly California least tern and western snowy plover). Concerning green sea turtles, the increase in boat traffic, particularly nighttime and out-of-channel traffic, would increase the potential for propeller strikes, which may cause injury to or death of green sea turtles. Concerning special-status avian species, this would occur as a result of increased foot traffic on sand dunes and beaches that can cause disturbance to nesting sites during and immediately after the proposed new fireworks display events.

The potential significant impacts on biological resources (Impact-BIO-2 and Impact-BIO-4) will be mitigated to a less-than-significant level by the implementation of Mitigation Measure MM-BIO-2 and reduced further by implementation of MM-BIO-4, as set forth in full in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. MM-BIO-4 was described above in Section 4.2.1 and MM-BIO-2 is described below.

MM-BIO-2: Implementation of Biological Resources–Related Conditions of the Proposed Ordinance for Indirect Impacts. The fireworks organizer and operator are required to comply with the following biological resources–related conditions of the proposed ordinance including (but not limited to): protection of species and habitat between February 15 and September 15, post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations; implement a public education program to educate potential viewers regarding appropriate viewing and boat docking areas to discourage trespass into sensitive wildlife habitat; and implement BMPs for fireworks display event preparation, discharge and clean-up. In addition, the fireworks organizer shall provide security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat and security patrols of the water areas to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay.

4.2.3 Impact-BIO-5: Potential Direct Impact on Sensitive Habitat and Wetlands from Fireworks-Generated Trash and Debris.

Impact-BIO-6: Potential Direct Impact on Eelgrass Habitat from Fireworks Barges and Tugboat Activity.

Potentially Significant Impact: The EIR identifies potentially significant direct impacts on biological resources (Impact-BIO-5 and Impact-BIO-6) as a result of fireworks-generated trash and debris, fireworks barges, and tugboat activity. Detailed information and analysis regarding these potential significant impacts are provided in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on biological resources (Impact-BIO-5 and Impact-BIO-6) as identified in the EIR.

Facts in Support of Finding: The potential significant impacts of the proposed project on biological resources (Impact-BIO-5 and Impact-BIO-6) are analyzed in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. The waste resulting from exploded fireworks shells could fall primarily into the waters of San Diego Bay, potentially resulting in impacts on sensitive habitats and federally protected wetlands of south San Diego Bay. In addition, the positioning of fireworks barges along the Chula Vista Bayfront over the shallow flats could result in direct impacts on eelgrass habitat and its nursery habitat functions, particularly at low tides.

The potential significant impacts on biological resources (Impact-BIO-5 and Impact-BIO-6) will be mitigated to a less-than-significant level by the implementation of Mitigation Measures MM-BIO-1 and MM-BIO-3, and reduced further by implementation of MM-BIO-4, as set forth in full in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. Mitigation Measures MM-BIO-1 and MM-BIO-4 were previously described above in Section 4.2.1. Mitigation Measure MM-BIO-3 is described below.

MM-BIO-3: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Eelgrass Impacts.

The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance including (but not limited to): for fireworks display events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings; to the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds; pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any

impacts to eelgrass that may occur; tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds.

4.2.4 Impact-BIO-7: Potential Indirect Impact on Sensitive Habitat and Wetlands from Increased Human and Boating Activity.

Potentially Significant Impact: The EIR identifies a potentially significant indirect impact on biological resources (Impact-BIO-7) as a result of increased boat traffic and human activity due to fireworks viewing. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on biological resources (Impact-BIO-7) as identified in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on biological resources (Impact-BIO-7) is analyzed in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Increased boat traffic could result in minor damage to eelgrass beds through unauthorized anchoring and/or propeller dragging. The proposed new fireworks display events could attract crowds to the Silver Strand State Beach, some of whom may trespass into restricted beach areas that are utilized by sensitive avian species.

The potential significant impact on biological resources (Impact-BIO-7) will be mitigated to a less-than-significant level by implementing Mitigation Measure MM-BIO-2 and reduced further by implementation of MM-BIO-4, as set forth in full in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. Mitigation Measure MM-BIO-2 was previously described above in Section 4.2.2 and MM-BIO-4 was previously described above in Section 4.2.1.

4.2.5 Impact-BIO-8: Potential Indirect Impact on Usage of Nursery Sites from Increased Human Activity.

Potentially Significant Impact: The EIR identifies a potentially significant indirect impact on biological resources (Impact-BIO-8) as a result of increased boat traffic and human activity due to fireworks viewing. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on biological resources (Impact-BIO-8) as identified in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on biological resources (Impact-BIO-8) is analyzed in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Indirect impacts on protected avian species from proposed new fireworks display events, such as increased foot traffic in or adjacent to nesting sites, increased human-generated trash, and noise associated with boating activity, are considered potentially significant due to disturbance noted in nesting birds.

The potential significant impact on biological resources (Impact-BIO-8) will be mitigated to a less-than-significant level by the implementation of Mitigation Measure MM-BIO-2 and reduced further by implementation of MM-BIO-4, as set forth in full in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. Mitigation Measure MM-BIO-2 was previously described above in Section 4.2.2 and MM-BIO-4 was previously described above in Section 4.2.1.

4.2.6 Impact-BIO-9: Potential Conflict with the City of San Diego and Chula Vista MSCP Subarea Plans.

Impact-BIO-10: Potential Conflict with the San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan.

Potentially Significant Impact: The EIR identifies potentially significant direct and indirect impacts on biological resources (Impact-BIO-9 and Impact-BIO-10), as new fireworks display events have the potential to conflict with applicable habitat conservation plans. Detailed information and analysis regarding these potential significant impacts are provided in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effects on biological resources (Impact-BIO-9 and BIO-10) as identified in the EIR.

Facts in Support of Finding: The potential significant impacts of the proposed project on biological resources (Impact-BIO-9 and Impact-BIO-10) are analyzed in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. The proposed new fireworks display events have the potential to result in significant direct and indirect impacts on habitat within the City of San Diego Multi-Habitat Planning Area and City of Chula Vista Multiple Species Conservation Program (MSCP) Preserve. The proposed new fireworks display events also have the potential to result in direct and indirect impacts on sensitive habitat and green sea turtles present within the San Diego Bay National Wildlife Refuge, which would be considered significant.

The potential significant impacts on biological resources (Impact-BIO-9 and Impact-BIO-10) will be mitigated to a less-than-significant level by the

implementation of Mitigation Measures MM-BIO-1 and MM-BIO-2, and reduced further by implementation of MM-BIO-4, as set forth in full in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. Mitigation Measures MM-BIO-1 and MM-BIO-4 were previously described above in Section 4.2.1. Mitigation Measure MM-BIO-2 was previously described above in Section 4.2.2.

4.3 Hydrology and Water Quality

4.3.1 Impact-WQ-1: Surface Water Pollutant Related to Fireworks Debris.

Potentially Significant Impact: The EIR identifies a potentially significant impact on hydrology and water quality (Impact-WQ-1) associated with the proposed fireworks display events in that the events could pollute surface waters if fireworks debris is not properly recovered. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.6, *Hydrology and Water Quality*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on hydrology and water quality identified as Impact WQ-1 in the EIR; and pursuant to CEQA Guidelines §15091(a)(3), specific legal, economic, social, technological, or other considerations make infeasible other mitigation measures or project alternatives identified in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on hydrology and water quality (Impact-WQ-1) is analyzed in Volume II (Draft EIR), Section 4.6, *Hydrology and Water Quality*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-WQ-1 would result during proposed fireworks display events if fireworks debris is not properly recovered, thus polluting surface waters.

The potential significant impact on hydrology and water quality (Impact-WQ-1) would be reduced by requiring implementation of Mitigation Measure MM-WQ-1. This mitigation measure is fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. MM-WQ-1 is briefly described below:

MM-WQ-1: Implementation of Water Quality–Related Conditions of the Proposed Ordinance for Fireworks Debris. The fireworks organizer and operator are required to comply with the numerous water quality-related conditions of the proposed ordinance, including (but not limited to): requirements pertaining to fireworks chemical composition and packaging; implementation of numerous BMPs for fireworks display event preparation, discharge and clean-up; and compliance with San Diego Water Board General Permit and other required permits and laws.

Under the project, implementation of Mitigation Measure MM-WQ-1 would reduce the water quality impacts associated with the proposed new fireworks display events, but not below significance. Despite the incorporation of Mitigation Measure MM-WQ-1, the impact on hydrology and water quality (Impact-WQ-1) is considered significant and unavoidable. This is because uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris related to fireworks on surface waters. Therefore, a Statement of Overriding Considerations pursuant to CEQA Guidelines §15093 is required.

4.3.2 Impact-WQ-2: Surface Water Pollutant Related to Increased Human-Generated Trash and Litter.

Potentially Significant Impact: The EIR identifies a potentially significant impact on hydrology and water quality (Impact-WQ-2) associated with the proposed fireworks display events in that publicly advertised fireworks display events could pollute surface waters if increased human-generated trash and litter within the major public viewing areas is not properly disposed of and cleaned up. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.6, *Hydrology and Water Quality*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on hydrology and water quality (Impact-WQ-2) as identified in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on hydrology and water quality (Impact-WQ-2) is analyzed in Volume II (Draft EIR), Section 4.6, *Hydrology and Water Quality*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-WQ-2 would result during publicly advertised fireworks display events if increased human-generated trash and litter within the major public viewing areas is not properly disposed of and cleaned, thus polluting surface waters.

The potential significant impact on hydrology and water quality (Impact-WQ-2) will be mitigated to a less-than-significant level by requiring implementation of Mitigation Measure MM-WQ-2. This mitigation measure is fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. MM-WQ-2 is described below.

MM-WQ-2: Implementation of Water Quality–Related Conditions of the proposed Ordinance for Human-Generated Trash and Litter. The fireworks organizer and operator are required to comply with the following water quality–related condition of the proposed ordinance: For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks operator

shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

4.4 Noise and Vibration

4.4.1 Impact-NOI-1: Substantial Periodic or Temporary Increase in Ambient Noise Levels of the Proposed New Fireworks Display Events.

Potentially Significant Impact: The EIR identifies a potential significant impact on noise and vibration (Impact-NOI-1) in that the proposed new fireworks display events (both Fourth of July and non-Fourth of July events) would result in a noise increase at the Coronado Cays homes to the west in the City of Coronado. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.8, *Noise and Vibration*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on noise and vibration identified as Impact-NOI-1 in the EIR; and pursuant to CEQA Guidelines §15091(a)(3), specific legal, economic, social, technological, or other considerations make infeasible other mitigation measures or project alternatives identified in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on noise and vibration (Impact-NOI-1) is analyzed in Volume II (Draft EIR), Section 4.9, *Noise and Vibration*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-NOI-1 would result because noise increases would occur during proposed new fireworks display events (both Fourth of July and non-Fourth of July events) at homes in the City of Coronado, west of the proposed National City and Chula Vista launch locations.

The potential significant impact on noise and vibration (Impact-NOI-1) would be reduced by implementation of Mitigation Measure MM-NOI-1. This mitigation measure is fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR and is briefly described as follows:

MM-NOI-1: Implementation of Noise-Related Conditions of the proposed Ordinance. The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance: fireworks display events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches; in addition, fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display).

Under the project, implementation of Mitigation Measure MM-NOI-1 would provide some reduction in overall noise levels from proposed new fireworks display events. The exact amount of noise reduction provided by these conditions cannot be quantified because of the many variables (e.g., precise numbers and types of fireworks to be used, size of shells), but the reductions would be modest. Because loud noise (including noise levels that are intended to be significantly higher than ambient conditions) is considered an integral part of traditional fireworks display events, mitigation measures, such as avoiding the use of noise-generating fireworks (i.e., using silent fireworks), would fundamentally change the nature of the proposed project and the overall audible experience of the display. Despite the incorporation of Mitigation Measure MM-NOI-1, the impact on noise and vibration (Impact-NOI-1) is considered significant and unavoidable and a Statement of Overriding Considerations pursuant to CEQA Guidelines §15093 is required.

4.5 Transportation, Circulation, and Parking

4.5.1 Impact-TRA-1: Decrease in the Performance of Roadway, Pedestrian, and Bicycle Facilities from Proposed New Fireworks Display Events.

Potentially Significant Impact: The EIR identifies a potential significant impact on transportation, circulation, and parking (Impact-TRA-1) in that the proposed new fireworks display events have the potential to temporarily decrease the performance of roadway, pedestrian, and bicycle facilities as a result of increased levels of vehicular, pedestrian, and bicycle activity. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.10, *Transportation, Circulation, and Parking*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on transportation, circulation, and parking identified as Impact-TRA-1 in the EIR; and pursuant to CEQA Guidelines §15091(a)(3), specific legal, economic, social, technological, or other considerations make infeasible other mitigation measures or project alternatives identified in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on transportation, circulation, and parking (Impact-TRA-1) is analyzed in Volume II (Draft EIR), Section 4.10, *Transportation, Circulation, and Parking*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-TRA-1 would result because new fireworks display events would temporarily decrease the performance of roadway, pedestrian, and bicycle facilities as a result of increased levels of vehicular, pedestrian, and bicycle activity.

The potential significant impact on transportation, circulation, and parking (Impact-TRA-1) under the project would be reduced by implementation of Mitigation Measure MM-TRA-1. This mitigation measure is fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR and is briefly described as follows:

MM-TRA-1: Implementation of the Transportation-Related Conditions of the Proposed Ordinance. The fireworks organizer is required to comply with the following transportation-related condition of the proposed ordinance, including (but not limited to): for all Fourth of July fireworks display events and for non-Fourth of July fireworks display events that are advertised to the public, the fireworks organizer shall prepare and submit an event transportation and parking management plan, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The Applicant shall also demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state, and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, and the District Code.

Under the project, implementation of Mitigation Measure MM-TRA-1 would reduce the traffic impacts during all Fourth of July fireworks display events and non-Fourth of July fireworks display events that are advertised to the public, but it cannot be determined with certainty that the impacts would be reduced to less-than-significant levels. Therefore, despite the incorporation of Mitigation Measure MM-TRA-1, the impact on transportation, circulation, and parking (Impact-TRA-1) is considered significant and unavoidable and a Statement of Overriding Considerations pursuant to CEQA Guidelines §15093 is required.

4.5.2 Impact-TRA-2: Inadequate Parking Supply During proposed New Fireworks Display Events.

Potentially Significant Impact: The EIR identifies a potential significant impact on transportation, circulation, and parking (Impact-TRA-2) in that the proposed new fireworks display events have the potential to result in a temporary inadequate supply during the displays due to an increased demand on parking facilities serving the viewing locations. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.10, *Transportation, Circulation, and Parking*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on transportation, circulation, and parking identified as Impact-TRA-2 in the EIR; and pursuant to CEQA Guidelines §15091(a)(3), specific legal, economic, social, technological, or

other considerations make infeasible other mitigation measures or project alternatives identified in the EIR.

Facts in Support of Finding: The potential significant impact of the proposed project on transportation, circulation, and parking (Impact-TRA-2) is analyzed in Volume II (Draft EIR), Section 4.10, *Transportation, Circulation, and Parking*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-TRA-2 would result because new fireworks display events have the potential to result in a temporary inadequate supply during the displays due to an increased demand on parking facilities serving the viewing locations.

The potential significant impact on transportation, circulation, and parking (Impact-TRA-2) would be reduced by implementation of Mitigation Measure MM-TRA-1. This mitigation measure is fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR and was previously described in Section 4.5.1.

Under the project, implementation of an approved Event Transportation and Parking Management Plan as set forth in MM-TRA-1 would reduce the parking impacts during fireworks display events. However, there are no metrics or tools available to quantify the effectiveness of the Event Transportation and Parking Management Plan in reducing parking impacts. Therefore, because the extent to which impacts would be reduced cannot be quantified, it cannot be determined with certainty that the impacts would be reduced to less-than-significant levels. Therefore, despite the incorporation of Mitigation Measure MM-TRA-1, the impact on transportation, circulation, and parking (Impact-TRA-2) is considered significant and unavoidable and a Statement of Overriding Considerations pursuant to CEQA Guidelines §15093 is required.

5.0 FINDINGS REGARDING CUMULATIVE SIGNIFICANT EFFECTS

CEQA requires a lead agency to evaluate the cumulative impacts of a proposed project. (CEQA Guidelines §15130(a).) Cumulative impacts are those that are considered significant when viewed in connection with the impacts of other closely related past, present, and reasonably foreseeable future projects. (CEQA Guidelines §15355.) Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

The EIR considers the cumulative effects of past, present, and reasonably foreseeable future fireworks display events, development projects, and temporary special events and the proposed project's contribution to these effects. Past development projects are defined as those that were recently completed and are now operational. Past and present fireworks display events and temporary special events are defined as those that occurred during the year 2015, unless noted otherwise. Present development projects are defined as those that are under construction but not yet operational. Reasonably foreseeable future fireworks display events and temporary special events are defined as those that have historically re-occurred annually, and therefore are anticipated to continue to reoccur in the future. Reasonably foreseeable future

development projects are defined as those for which a development application has been submitted or credible information is available to suggest that project development is a probable outcome at the time the Notice of Preparation was issued (September 2015).

Based on information obtained through consultation with SDRWQCB and the cities of San Diego, Coronado, National City, Chula Vista, and Imperial Beach, a total of 53 existing fireworks display events were identified for the cumulative analysis. The cumulative fireworks display events listed in Volume II (Draft EIR) Chapter 5, *Cumulative Impacts*, Tables 5-2 and 5-3 all occurred in and around San Diego Bay and Imperial Beach during the year 2015 and were issued permits by the appropriate public agency (i.e., a Special Event Permit). The list of cumulative fireworks display events provided represents the best estimate possible based on the current information available and accounts for only those fireworks display events for which the District received copies of permits as a result of consultation with the aforementioned agencies. However, given the uncertainty surrounding special events in general, the number of actual future fireworks display events in and around San Diego Bay and Imperial Beach may fluctuate from year to year depending on various factors such as the state of the economy and population growth. Nothing would preclude the occurrence of an additional number of future cumulative fireworks display events with those provided in Tables 5-2 and 5-3, as these fireworks display events are outside of the District's control. The cumulative analysis assumes that all event sponsors complied with any and all applicable federal, state, and local regulations and requirements governing fireworks display events, and that all fireworks display event organizers applied for, and received, all necessary permits from the appropriate regulatory agency.

The project would contribute to cumulative impacts related to air quality and health risk, biological resources, and hydrology and water quality. The findings below identify each of the significant cumulative environmental impacts, the mitigation measures adopted to substantially lessen or to avoid them, or the reasons proposed mitigation measures are infeasible due to specific economic, social, or other considerations. The findings incorporate by reference the analysis of significant cumulative impacts contained in Volume II (Draft EIR), Chapter 5 *Cumulative Impacts*, and as revised within Chapter 3, *Errata and Revisions*, of the Final EIR.

The significant cumulative impacts related to air quality and health risk and biological resources identified in the EIR would be reduced to a level below significance after implementation of feasible mitigation. The significant cumulative impacts related to hydrology and water quality identified in the EIR would not be avoided or reduced to a level below significance despite the incorporation of all feasible mitigation measures and alternatives. As described in the Statement of Overriding Considerations below, therefore, the District has determined these unavoidable significant cumulative impacts are acceptable because of specific overriding considerations.

5.1 Air Quality and Health Risk

5.1.1 Impact-C-AQ-1: Emissions in Excess of Cumulative PM2.5 Thresholds during Combined National City Bayfront and Chula Vista Bayfront Fourth of July Fireworks Display Events.

Potentially Significant Impact: The EIR identifies a potential significant cumulative impact on air quality and health risk (Impact-C-AQ-1) in that project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, before mitigation, would exceed the daily San Diego County SLTs for PM2.5. The contribution of project-related emissions is considered cumulatively considerable because the project emissions would exceed the daily threshold that has been set by SDAPCD to attain the PM2.5 NAAQS and CAAQS. Detailed information and analysis regarding this significant potential impact are provided in Volume II (Draft EIR), Chapter 5, *Cumulative Impacts* (Air Quality and Health Risk), with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on air quality and health risk identified as Impact-C-AQ-1 in the EIR.

Facts in Support of Finding: The potential significant impacts of the proposed project on air quality and health risk (Impact-C-AQ-1) are analyzed in Volume II (Draft EIR), Chapter 5, *Cumulative Impacts* (Air Quality and Health Risk), with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-C-AQ-1 will result from project emissions generated when the new National City Bayfront and Chula Vista Bayfront Fourth of July fireworks display events occur at the same time, and, when combined with other nearby past, present, and probable future projects, would exceed the daily San Diego County SLTs for PM2.5. The contribution of project-related emissions is considered significant because the project emissions would exceed the daily threshold that has been set by SDAPCD to attain the PM2.5 NAAQS and CAAQS.

The potential significant impact on air quality and health risk (Impact-C-AQ-1) would be reduced to below significance by requiring implementation of Mitigation Measure MM-AQ-1 and further reduced by implementation of MM-AQ-2. These mitigation measures are fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR and were previously described in Section 4.1.1.

5.2 Biological Resources

5.2.1 Impact-C-BIO-1: Cumulatively Considerable Accumulation of Trash and Debris in Upland and Marine Habitats.

Potentially Significant Impact: The EIR identifies a potentially significant direct and indirect cumulative impact on biological resources (Impact C-BIO-1) due to the accumulation of trash and debris in upland and marine habitats when combined with past, present, and reasonably foreseeable future projects. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on biological resources (Impact C-BIO-1) as identified in the EIR.

Facts in Support of Finding: The potential significant cumulative impact of the proposed project on biological resources (Impact C-BIO-1) is analyzed in Volume II (Draft EIR), Section 4.3, *Biological Resources*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. The proposed new fireworks display events have the potential to directly and indirectly contribute to a cumulatively considerable accumulation of trash and debris in upland and marine habitats when combined with past, present, and reasonably foreseeable future projects.

The potential significant impact on biological resources (Impact C-BIO-1) will be mitigated to a less-than-significant level by the implementation of Mitigation Measures MM-BIO-1 and MM-BIO-2, and reduced further by implementation of MM-BIO-4, which are set forth in full in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. Mitigation Measures MM-BIO-1, MM-BIO-2, and MM-BIO-4 were previously described above in Sections 4.2.1 and 4.2.2.

5.3 Hydrology and Water Quality

5.3.1 Impact C-WQ-1: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Debris.

Potentially Significant Impact: The EIR identifies a potentially significant cumulative impact on hydrology and water quality (Impact C-WQ-1) associated with the proposed fireworks display events in that the events could contribute to an accumulation of fireworks debris when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade surface water quality if fireworks debris is not properly recovered. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.6,

Hydrology and Water Quality, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on hydrology and water quality identified as Impact C-WQ-1 in the EIR; and pursuant to CEQA Guidelines §15091(a)(3), specific legal, economic, social, technological, or other considerations make infeasible other mitigation measures or project alternatives identified in the EIR.

Facts in Support of Finding: The potential cumulatively considerable impact of the proposed project on hydrology and water quality (Impact C-WQ-1) is analyzed in Volume II (Draft EIR), Section 4.6, *Hydrology and Water Quality*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact C-WQ-1 would occur in that events could contribute to an accumulation of fireworks debris when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade surface water quality if fireworks debris is not properly recovered.

The potential cumulatively considerable impact on hydrology and water quality (Impact C-WQ-1) would be reduced by requiring implementation of Mitigation Measure MM-WQ-1. This mitigation measure is fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. MM-WQ-1 was previously described in Section 4.3.1.

Under the project, implementation of Mitigation Measure MM-WQ-1 would reduce the cumulatively considerable water quality impacts associated with the proposed new fireworks display events, but not below significance. Despite the incorporation of Mitigation Measure MM-WQ-1, the cumulative impact on hydrology and water quality (Impact C-WQ-1) is considered significant and unavoidable and a Statement of Overriding Considerations pursuant to CEQA Guidelines §15093 is required.

5.3.2 Impact C-WQ-2: Contribute to a Cumulatively Considerable Water Quality Impact from an Accumulation of Trash and Litter.

Potentially Significant Impact: The EIR identifies a potentially significant cumulatively considerable impact on hydrology and water quality (Impact C-WQ-2) associated with the proposed fireworks display events in that new fireworks display events could contribute to an accumulation of trash and litter in San Diego Bay when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade water quality. Detailed information and analysis regarding this potential significant impact are provided in Volume II (Draft EIR), Section 4.6, *Hydrology and Water Quality*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

Finding: Pursuant to CEQA Guidelines §15091(a)(1), changes or alterations have been required or incorporated in the approved project that avoid or substantially lessen the significant environmental effect on hydrology and water quality (Impact C-WQ-2) as identified in the EIR.

Facts in Support of Finding: The potential cumulatively considerable impact of the proposed project on hydrology and water quality (Impact C-WQ-2) is analyzed in Volume II (Draft EIR), Section 4.6, *Hydrology and Water Quality*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Impact-C-WQ-2 would result in that new fireworks display events could contribute to an accumulation of trash and litter in San Diego Bay when combined with multiple past, present, and foreseeable future fireworks display events that occur in San Diego Bay throughout the year, which could degrade water quality.

The potential cumulatively considerable impact on hydrology and water quality (Impact-WQ-2) will be mitigated to a less-than-significant level by requiring implementation of Mitigation Measure MM-WQ-2. This mitigation measure is fully set forth in the MMRP and Table 2-4 of Chapter 2, *Executive Summary*, of the Final EIR. MM-WQ-2 was previously described in Section 4.3.2.

6.0 FINDINGS REGARDING PROJECT ALTERNATIVES

In preparing and adopting findings, a lead agency need not necessarily address the feasibility of both mitigation measures and environmentally superior alternatives when contemplating the approval of a project with significant environmental impacts. Where the significant impacts can be mitigated to a level of insignificance solely by the adoption of mitigation measures, the lead agency has no obligation in drafting its findings to consider the feasibility of environmentally superior alternatives, even if their impacts would be less severe than those of the project as mitigated. Accordingly, in adopting the findings concerning alternatives for the proposed project, the District considers only those significant environmental impacts that cannot be avoided or substantially lessened through mitigation.

Where a project will result in some unavoidable significant environmental impacts even after application of all feasible mitigation measures identified in an EIR, the lead agency must evaluate the project alternatives identified in the EIR. Under such circumstances, the lead agency must consider the feasibility of alternatives to the project that could avoid or substantially lessen the unavoidable significant environmental impacts. "Feasible" means capable of being accomplished in a successful manner within a reasonable time, taking into account economic, environmental, legal, social, and technological factors (CEQA Guidelines §15364).

If there are no feasible project alternatives, the lead agency must adopt a Statement of Overriding Considerations with regard to the project pursuant to CEQA Guidelines §15093. If there is a feasible alternative to the project, the lead agency must decide whether it is environmentally superior to the proposed

project. The lead agency must consider in detail only those alternatives that could feasibly attain most of the basic objectives of the project; however, the lead agency must consider alternatives capable of eliminating significant environmental impacts even if these alternatives would impede to some degree the attainment of project objectives. (CEQA Guidelines §15126.6(f).)

These findings contrast and compare the alternatives where appropriate in order to demonstrate that the selection of the approved project has substantial environmental, planning, fiscal, and other benefits. In rejecting certain alternatives, the District has examined the project objectives and weighed the ability of the various alternatives to meet the objectives. The District believes the approved project best meets these objectives with the least environmental impact. The objectives considered by the District are set forth in Section 1.4 above and in Volume II (Draft EIR), Section 3.2, *Project Objectives*.

The EIR examined a range of reasonable alternatives to determine whether they could meet the project objectives while avoiding or substantially lessening one or more of the proposed project's unavoidable significant impacts. These findings also considered the feasibility of each alternative. In determining the feasibility of alternatives, the District considered whether the alternatives could be accomplished in a successful manner within a reasonable period of time in light of economic, environmental, social, and technological factors. (CEQA Guidelines §15126(d)(5)(A), 15364.)

The EIR concluded that the proposed project will result in unavoidable significant direct impacts on hydrology and water quality; noise and vibration; and transportation, circulation, and parking, because even though these impacts could be reduced by the mitigation measures recommended in the EIR, the District cannot state with certainty that the impacts will be reduced below significance.

Accordingly, the EIR analyzed three alternatives to the proposed project: (1) the No Project Alternative, (2) the Quiet Fireworks Display Events Alternative, and (3) the No Salute Fireworks Alternative. Detailed information and analysis concerning these alternatives are set forth in Volume II (Draft EIR), Chapter 7, *Alternatives to the Proposed Project*, of the EIR, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable.

This section of the findings summarizes these alternatives and their feasibility and effectiveness in avoiding or substantially lessening any of the unavoidable significant impacts associated with the proposed project.

6.1 Alternative 1 – No Project Alternative

The No Project Alternative is an alternative required to be evaluated by CEQA (CEQA Guidelines §15126(d)(2)). The No Project Alternative assumes that the proposed project would not be implemented. The No Project Alternative serves as the alternative to compare the effects of the proposed project and other project alternatives on the existing conditions.

Under the No Project Alternative, the proposed ordinance would not be adopted and no performance standards to regulate the environmental effects of existing fireworks display events occurring in San Diego Bay or the Imperial Beach Oceanfront would be implemented. In addition, the four proposed new fireworks display events along the National City and Chula Vista Bayfronts would not occur. However, all existing fireworks display events that require a discretionary approval by the District or are operated by the District's tenants and have obtained all necessary agency permits, such as the General Permit from SDRWQCB, would continue to occur, including but not limited to those listed in Volume II (Draft EIR), Chapter 5, *Cumulative Impacts*, Table 5-2.

The potential impacts of the No Project Alternative are discussed in detail in Volume II (Draft EIR), Chapter 7, *Alternatives to the Proposed Project* (Section 7.5.1), with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. Because the proposed ordinance would not be adopted and the four proposed new fireworks display events along the National City and Chula Vista Bayfronts would not occur, the No Project Alternative would avoid or substantially lessen the direct significant impacts on air quality and health risk; biological resources; hydrology and water quality; noise and vibration; and transportation, circulation, and parking and the cumulative significant impacts on air quality and health risk, biological resources, and hydrology and water quality associated with the proposed project.

However, the No Project Alternative would not meet most of the project objectives because it would not include the adoption of an ordinance that would include policies, performance standards, or other requirements that could be applied to all fireworks display events requiring discretionary action by the District or are operated by the District's tenants, and would preclude obtaining the benefits described in Section 7.0 below.

The District finds that all potential significant environmental impacts of the proposed project will be mitigated by the design of the proposed project and the adoption of the mitigation measures set forth in the MMRP, except the significant direct and cumulative impacts on hydrology and water quality; noise and vibration; and transportation, circulation, and parking. The District further finds that, although the No Project Alternative would avoid or substantially lessen the potential significant direct and cumulative impacts on air quality and health risk; biological resources; hydrology and water quality; noise and vibration; and transportation, circulation, and parking, the No Project Alternative is infeasible because it would not meet the majority of the project objectives and would not provide the District and the region with any of the benefits described below in the Statement of Overriding Considerations, and thus would be undesirable from a policy standpoint. For the potential significant impacts that cannot be avoided or mitigated to a level below significance, the District adopts the Statement of Overriding Considerations in Section 7.0 below pursuant to CEQA Guidelines §15093.

6.2 Alternative 2 – Quiet Fireworks Display Events Alternative

The Quiet Fireworks Display Events Alternative would require the proposed new fireworks display events along the National City and Chula Vista Bayfronts to be quiet fireworks display events that would not exceed a noise limit of 120 A-weighted decibels (dBA).¹ For this type of fireworks display event, the pyrotechnicians design a fireworks package that relies on the quieter types of fireworks. These fireworks display events would eliminate the use of “salute” fireworks altogether (*salute* fireworks, also known as maroon fireworks, are fireworks designed to make a very loud bang, or “report,” and an intense flash of light), as well as any other fireworks that generate a loud report, and instead focus on rich color effects and tight visual choreography in order to garner similar entertainment value out of the display. Generally, fireworks used in quiet fireworks display events would include fountains, wheels, cakes (such as cassettes, comets, spinners or turbillions, colored stars, fish or bees, and falling leaves), Chinese lanterns, and lanceworks.

It is important to note that the use of these fireworks would create a quieter, but not a silent, fireworks display event. In addition, quiet fireworks display events would involve fireworks that are concentrated closer to the ground with fewer aerial shells being employed due to the loud noise that can occur during propulsion of an aerial shell. Therefore, while these fireworks display events would be in the same locations as those specified for the proposed project (as detailed in Chapter 3, *Project Description* within Volume II, Draft EIR), i.e., on barges, because quiet fireworks display events would rely on fireworks that cannot achieve the same heights or the same magnitude as traditional fireworks displays, they would not be as prominently visible and the viewing area would be smaller than that of the proposed project. The Quiet Fireworks Display Events Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on nearby sensitive receptors.

The potential impacts of the Quiet Fireworks Display Events Alternative are discussed in detail in Volume II (Draft EIR), Chapter 7, *Alternatives to the Proposed Project* (Section 7.5.2), with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. The Quiet Fireworks Display Events Alternative would have slightly greater significant impacts on air quality and health risk than the proposed project, even with similar project mitigation measures. The Quiet Fireworks Display Events Alternative would reduce the proposed project’s unavoidable significant impacts on noise and vibration, as the fireworks would be quieter, and on transportation, circulation, and parking, as the overall number of spectators would be reduced; however, the impacts would not be reduced to a less-than-significant level, even with the incorporation of project mitigation measures. This alternative would not reduce or substantially avoid the unavoidable significant impact on hydrology and water quality of the proposed

¹ 120 dBA maximum impulse sound pressure level due to the fireworks break(s), as measured at a horizontal distance of 15 meters from the launch point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.

project, as it would result in a similar amount of fireworks-generated debris and human-generated trash, even with the incorporation of project mitigation measures.

The Quiet Fireworks Display Events Alternative would achieve some of the project objectives stated in Section 1.4 above. However, this alternative would only partially meet Objectives #2 and #3, and would also not meet Objective #4. These fireworks display events, while providing a popular and region-wide way to celebrate and express civic pride, would differ significantly from traditional fireworks display events because they would not achieve the same heights and sounds as the fireworks used in traditional Fourth of July and other celebrations. In addition, a quiet fireworks display event would be concentrated lower to the ground and, as such, it would limit the vantage points from which these events would be visible and would decrease the number of spectators that would be able to view these events.

The District finds that the Quiet Fireworks Display Events Alternative would not achieve the project objectives relating to traditional fireworks display events because they would not reach the same heights or create the same sounds as the fireworks used in traditional Fourth of July and other celebrations; would limit the vantage points from which these events would be visible; would decrease the number of spectators that would be able to view these events as stated in Objectives #2, #3, and #4; and would preclude obtaining the benefits described in Section 7.0 below related to those objectives.

The District finds that all potential significant environmental impacts of the proposed project will be mitigated by the design of the proposed project and the adoption of the mitigation measures set forth in the MMRP, except the unavoidable significant direct impacts on hydrology and water quality; noise and vibration; and transportation, circulation, and parking, and the cumulatively considerable and unavoidable impact on hydrology and water quality. The District further finds that, although the Quiet Fireworks Display Events Alternative would reduce the potential significant direct and cumulative impacts on noise and vibration and transportation, circulation, and parking, these impacts would not be reduced to a less-than-significant level. The District further finds that the Quiet Fireworks Display Events Alternative is infeasible because it would not meet the majority of the project objectives and thus would be undesirable from a policy standpoint. For the potential significant impacts that cannot be avoided or mitigated to a level below significance, the District adopts the Statement of Overriding Considerations in Section 7.0 below pursuant to CEQA Guidelines §15093.

6.3 Alternative 3 – No Salute Fireworks Alternative

Salute fireworks, which are fireworks specifically designed to create a loud bang and intense flash of light, are the loudest type of firework. The primary purpose of salute shells is to announce the beginning and end of the display and produce a loud, percussive effect. From a distance, these shells sound similar to cannon

fire when detonated. While the noise level of these fireworks varies by type, a typical linear (unweighted) peak noise level directly below a 3-inch salute exploding at its normal altitude is 140 decibels (dB). The No Salute Fireworks Alternative would have the same characteristics as all of the fireworks display events that compose the proposed project, including the same total pounds of fireworks per event (as outlined in Table 2-2 in Chapter 2, *Executive Summary*, of the Final EIR), but would prohibit the use of salute fireworks (also known as maroon fireworks) and limit the noise produced by all fireworks during fireworks display events to a maximum of 130 dB.² All other firework types, including those described above under Section 6.2, *Alternative 2 – Quiet Fireworks Display Events Alternative*, would be allowed as long as they do not exceed the 130 dB noise limit. The No Salute Fireworks Alternative is intended to avoid or substantially lessen the significant noise impacts of the proposed project on sensitive receptors.

The potential impacts of the No Salute Fireworks Alternative are discussed in detail in Volume II (Draft EIR), Chapter 7, *Alternatives to the Proposed Project* (Section 7.5.3), with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable. This alternative would reduce the significant biological resources and noise impacts of the proposed project with incorporation of similar mitigation. The No Salute Fireworks Alternative would result in similar significant and unavoidable impacts (even after mitigation) associated with hydrology and water quality and transportation, circulation, and parking.

The No Salute Fireworks Alternative would achieve several of the project objectives. However, the No Salute Fireworks Alternative would not achieve Objective #2 and only partially achieve Objective #3 set forth in Section 1.4 above. The No Salute Fireworks Alternative would include adoption of an ordinance that would establish policies, performance standards, or other requirements that would be applied to fireworks display events; it would allow for the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and near the Imperial Beach Oceanfront in a manner that considers the health, safety, and welfare of people, property, and the environment, albeit at a slightly reduced intensity; and it would continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands.

The District finds that the No Salute Fireworks Alternative would not achieve the fundamental project objectives relating to loud sounds associated with fireworks used in traditional Fourth of July and other celebrations, which provide a popular and region-wide way to celebrate and express civic pride. The fireworks display events proposed in this alternative generally would differ significantly from traditional fireworks display events because they would not achieve all of the

² 130 dB linear (unweighted) peak sound pressure level due to the firework break(s), as measured at a horizontal distance of 15 meters from the launch point at a height of 1 meter above the ground, using a Type 1 sound measuring device with a free-field microphone.

same loud sounds associated with fireworks used in traditional Fourth of July and other celebrations. Therefore, this alternative would not meet Objectives #2 and #3 (partially) to allow for the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District, including on the Fourth of July, all of which provide a popular and region-wide way to celebrate and express civic pride.

The District finds that all potential significant environmental impacts of the project will be mitigated by the design of the proposed project and the adoption of the mitigation measures set forth in the MMRP, except the proposed project's direct significant impacts on hydrology and water quality; noise and vibration; and transportation, circulation, and parking. The District further finds that the No Salute Fireworks Alternative would not avoid any significant traffic impact of the proposed project, but would slightly reduce the proposed project's significant impacts on biological resources and would slightly lessen the proposed project's unavoidable significant impact on noise and vibration.

Although it is environmentally superior to the proposed project, the District finds that the No Salute Fireworks Alternative is infeasible for policy reasons because it would not attain several fundamental project objectives and would not provide the District and the region with all of the benefits described in Section 7.0 below, and thus would be undesirable from a policy standpoint. For the unavoidable significant impacts that cannot be avoided or substantially lessened, therefore, the District adopts the Statement of Overriding Considerations in Section 7.0 below pursuant to CEQA Guidelines §15093.

7.0 STATEMENT OF OVERRIDING CONSIDERATIONS

The proposed project would have significant unavoidable environmental impacts on the following areas, which are described in detail in Volume II (Draft EIR), Chapter 4, *Environmental Impacts*, and Chapter 5, *Cumulative Impacts*, with revisions and clarifications in Final EIR Chapter 3, *Errata and Revisions*, if applicable:

- Direct impacts on hydrology and water quality; noise and vibration; and transportation, circulation, and parking; and
- Cumulative impacts on hydrology and water quality.

The District analyzed a reasonable range of alternatives to the proposed project, including the No Project Alternative, the Quiet Fireworks Display Events Alternative, and the No Salute Fireworks Alternative. Based on the evidence contained in the EIR and presented during the administrative proceedings, the District determined that the proposed project would meet the fundamental objectives and is feasible. Therefore, the Board of Port Commissioners of the District has adopted the proposed project.

Notwithstanding the District's approval, the approved project would have unavoidable significant impacts. Pursuant to CEQA Guidelines §§15043 and

15093, therefore, the District must adopt a Statement of Overriding Considerations in order to approve the proposed project. A Statement of Overriding Considerations allows a lead agency to determine that specific economic, social, or other expected benefits of a project outweigh its potential unavoidable significant environmental risks. Although the District has no obligation under CEQA to adopt a Statement of Overriding Considerations for significant impacts that will be mitigated to a level below significance, the District wishes to make clear its determination that the benefits of the approved project described below are of such importance to the community and the region as to outweigh all significant adverse impacts described in the EIR or suggested by participants in the public review process.

Pursuant to CEQA Guidelines §15093, the District hereby finds that the proposed project would have the following benefits and that each of the following benefits is sufficient, on its own, to justify adoption of the proposed project:

- The proposed project will advance the goal articulated in the Port's mission statement that provides: "While protecting the Tidelands Trust resources, the District will balance economic benefits, community services, environmental stewardship, and public safety on behalf of the citizens of California." The proposed project meets all aspects of the Port's mission statement, as further described below.
- The proposed project will result in economic benefits in the form of increased business and tax revenue and indirectly result in increased patronage of surrounding businesses. It is anticipated that two proposed new Fourth of July fireworks display events that would occur under the proposed project would attract visitors from around the San Diego region to cities, communities, and neighborhoods that provide viewing opportunities for the fireworks display events and result in increased income for local businesses as well as increased sales tax revenue for the local governments of all neighboring cities. The proposed project would indirectly stimulate additional economic growth through increased patronage of surrounding businesses.
- The Port is charged with implementation of the Public Trust Doctrine and facilitates access to the San Diego Bay for all Californians. The fireworks display events are consistent with that core mission as they provide a community service that is open to all residents and visitors to the waterfront, are free to view, and provide an opportunity for the community interaction and a popular and region-wide way to celebrate and express civic pride.
- The project consists of an ordinance that would include performance standards to regulate the environmental effects of the existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants. The ordinance

provides several measures for environmental stewardship, as further detailed below.

- The ordinance includes strategies for transportation during fireworks events, which will support public safety. For all Fourth of July fireworks display events and for non-Fourth of July fireworks display events that are advertised to the public, the fireworks organizer will implement an Event Transportation and Parking Management Plan designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible.
- Concerning environmental stewardship, the proposed ordinance includes several conditions pertaining to limiting emissions related to air quality. The proposed ordinance limits delivery truck idling to 3 minutes and encourages the use of alternative fireworks produced with pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner and produce less smoke. Furthermore, the proposed ordinance requires a reduction in the total amount of copper allowed in fireworks used for the Big Bay Boom event. The conditions of the proposed ordinance would ensure that emissions from existing fireworks display events are effectively reduced. As such, compliance with the proposed ordinance would improve existing conditions associated with current recurring fireworks display events.
- The proposed ordinance contains several conditions of approval that would reduce potential impacts on the biological resources of San Diego Bay and the Imperial Beach Oceanfront. The proposed ordinance requires implementation of post-display clean-up practices consistent with the requirements of SDRWQCB's General Permit, removal of fireworks packaging, implementation of best management practices, and a reduction in the amount of non-biodegradable fireworks components that can be used. The proposed ordinance also includes a condition of approval that would require the fireworks organizer, with the assistance of the fireworks operator, to prepare and implement a comprehensive Fireworks Best Management Practices Plan for each fireworks display event consistent with the requirements of SDRWQCB's General Permit. These conditions would require additional clean-up of fireworks-generated trash and debris from existing fireworks display events and that the use of non-biodegradable fireworks components is limited, thereby ensuring that green sea turtles and sensitive avian species are not injured by mistakenly consuming waste materials.
- The proposed ordinance contains several conditions of approval that would reduce potential impacts on the water quality of San Diego Bay and the Imperial Beach Oceanfront. The proposed ordinance requires the use of alternative fireworks that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke, and reduce pollutant

waste; removal of packaging; inclusion of biodegradable inner components; implementation of BMPs; compliance with SDRWQCB's General Permit requirements and other required permits; and implementation of post-display cleanup practices consistent with the requirements of SDRWQCB's General Permit. These conditions would require additional clean-up of fireworks-generated debris from existing fireworks display events, thereby reducing the potential for water quality degradation.

- The proposed ordinance contains several conditions of approval intended to limit noise impacts on sensitive biological resources. These conditions would require the fireworks display events that occur during the nesting season to either be located not less than 1 mile from any federally or state-listed avian species nesting colony unless the maximum shell size used in the event is limited to 8 inches and avoid the use of salutes within the first quarter of a fireworks display event. It is not anticipated that any of the existing fireworks display events launch locations would be moved as a result of the ordinance. As a result, the noise levels from existing fireworks display events would remain largely unchanged except for potential abatement (reduction) that would occur as a result of limiting shell sizes and salutes.
- The proposed project would allow the continuation of a Fourth of July celebration and pride in the freedom of America with traditional fireworks as emblematic of the events of that freedom as enshrined in the national anthem.

The District has weighed the benefits of the proposed project against its potential unavoidable significant environmental risks in determining whether to adopt it as the approved project. After balancing the specific economic, legal, social, technological, and other benefits of the project, the Board of Port Commissioners has determined that the specific benefits identified above outweigh the significant unavoidable environmental impacts of the project. Each of the benefits and the fulfillment of the objectives of the approved project, as stated herein, is determined to be a separate and independent basis for overriding the unavoidable significant environmental impacts identified above. For the foregoing reasons, therefore, the District finds that the proposed project's potential significant unavoidable environmental impacts are outweighed by the benefits described above.

Exhibit B to Resolution No. 2017-075
Attachment B

Chapter MMRP
Mitigation Monitoring and Reporting Program

MMRP.1 Purpose

The purpose of this Mitigation Monitoring and Reporting Program (MMRP) is to ensure that the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events project implements mitigation measures for significant environmental effects, as required by the Final Environmental Impact Report (EIR) for the proposed project. Those mitigation measures have been integrated into this MMRP. The MMRP provides a mechanism for monitoring the mitigation measures in compliance with the EIR, and general guidelines for the use and implementation of the monitoring program are described below.

This MMRP is written in accordance with California Public Resources Code 21081.6 and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. California Public Resources Code Section 21081.6 requires the Lead Agency, for each project that is subject to CEQA, to adopt a reporting or monitoring program for changes made to the project, or conditions of approval, adopted in order to mitigate or avoid significant effects on the environment and to monitor performance of the mitigation measures included in any environmental document to ensure that implementation takes place. The San Diego Unified Port District (District) is the designated Lead Agency for the MMRP. The Lead Agency is responsible for review of all monitoring reports, enforcement actions, and document disposition. The Lead Agency will rely on information provided by a monitor as accurate and up to date and will field check mitigation measure status as required.

The District may modify how it will implement a mitigation measure, as long as the alternative means of implementing the mitigation still achieve the same or greater impact reduction. Copies of the measures shall be distributed to the participants of the monitoring effort to ensure that all parties involved have a clear understanding of the adopted mitigation measures and monitoring requirements.

MMRP.2 Format

Mitigation measures applicable to the proposed project include avoiding certain impacts altogether, minimizing impacts by limiting the degree or magnitude of the action and its implementation, and/or requiring supplemental structural controls. Within this document, approval mitigation measures are organized and referenced by subject category. Each of the mitigation measures has a numerical reference. The following items are identified for each mitigation measure.

- Mitigation Language and Numbering
- Mitigation Timing
- Methods for Monitoring and Reporting
- Responsible Parties

MMRP.2.1 Mitigation Language and Numbering

Provides the language of the mitigation measure in its entirety along with a corresponding number for identification.

MMRP.2.2 Mitigation Timing

The mitigation measures required for the project will be implemented at various times, including prior to the issuance of a fireworks permit, prior to each fireworks display event, during each fireworks display event, or following each fireworks display event.

MMRP.2.3 Methods for Monitoring and Reporting

The MMRP includes the procedures for documenting and reporting mitigation implementation efforts. The party responsible for implementing each of the mitigation measures varies. The District is responsible for all mitigation monitoring and reporting.

MMRP.2.4 Responsible Parties

For each mitigation measure, the party responsible for implementation, monitoring and reporting, and verifying successful completion of the mitigation measure is identified.

Table 1. Mitigation Monitoring and Reporting Program

Mitigation Measures	Timing and Methods	Responsible Parties
Air Quality and Health Risk		
<p>MM-AQ-1: Limit the Size of Overlapping New Fireworks Display Events in Compliance with the Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (c) Size of Fireworks Display Events. D. National City Fourth of July, not to exceed 400 pounds of fireworks E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks</p>	<p>Timing: Prior to issuance of a fireworks permit Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator Monitoring and Reporting: Fireworks Organizer, Fireworks Operator Verification: District</p>
<p>MM-AQ-2: Implementation of Air Quality-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following air quality-related conditions of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up: 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use. (d) Fireworks Chemical Composition and Packaging. 1. Chemical Composition. B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants</p>	<p>Timing: Prior to and during each fireworks display event Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator Monitoring and Reporting: Fireworks Organizer, Fireworks Operator Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available.</p>		
Biological Resources		
<p>MM-BIO-1: Implementation of Biological Resources-Related Conditions of the Proposed Ordinance for Direct Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <ol style="list-style-type: none"> 2. Packaging. <ol style="list-style-type: none"> A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event. B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited. <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <ol style="list-style-type: none"> 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use. 2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved 	<p>Timing: Prior to issuance of a fireworks permit, prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the fireworks launch area to contain debris.</p> <ol style="list-style-type: none"> 3. Wires from the electric match placed in the Fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event. 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway. 6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. 		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment.</p> <p>8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.</p> <p>9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.</p> <p>10. Within ten (10) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the weight of the fireworks trash and debris collected is less than fifty percent (50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p> <p>(i) Compliance with San Diego Water Board General Permit.</p> <p>1. Prior to the Executive Director's issuance of a permit</p>		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.</p> <ol style="list-style-type: none"> <li>2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article. <li>3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board. <p>(j) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.</p> <p>(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant's failure to comply with any applicable law,</p>		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p>		
<p>MM-BIO-2: Implementation of Biological Resources-Related Conditions of the Proposed Ordinance for Indirect Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related condition of the proposed ordinance. Section X.07 – Permits – Conditions of Approval (e) Protection of Species and Habitat. The following conditions shall apply to fireworks display events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 3. Security. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays. In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay. 4. Signage. For fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the fireworks organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior. 	<p>Timing: Prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: District, Fireworks Organizer, Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>5. Education. Beginning not less than seven (7) days before fireworks display events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the fireworks organizer shall implement a public education program using daily announcements on social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to remind viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).</p> <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p>		
<p>MM-BIO-3: Implementation of the Biological Resources-Related Conditions of the Proposed Ordinance for Direct Eelgrass Impacts. The fireworks organizer and operator are required to comply with the following biological resources-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(g) Eelgrass Avoidance and Mitigation. For fireworks display events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of</p>	<p>Timing: Prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer, Fireworks Operator</p> <p>Monitoring and Reporting: Qualified agent, approved by the District, Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.</p>		
<p>MM-BIO-4: Fireworks Biological Monitoring Plan. Not less than 30 days before any fireworks display event in the South Bay that would occur within 1 mile of sensitive avian nesting colonies, the fireworks organizer shall submit to the District an Avian Species Nesting Colony Monitoring Plan (Monitoring Plan). The Monitoring Plan shall be prepared by a qualified biologist and approved by the District in coordination with USFWS and CDFW. A qualified biologist is a person who, by reason of his or her knowledge of the natural sciences and the principles of wildlife biology, acquired by education and experience. The Monitoring Plan shall identify the monitoring protocol that will be used to assess the effectiveness of mitigation measures MM-BIO-1 and MM-BIO-2 and shall, at a minimum, include the following:</p> <ol style="list-style-type: none"> 1. A literature review which refines the proposed methodology. 2. A list of target species identified for each individual event based on the season of the event, proximity of the event to nesting colonies, sensitivity of species, and capacity for the fireworks display event to cause species disturbance/effects. 3. Species behavior and noise data shall be collected at least 1 hour prior to, during, and 1 hour after the fireworks display event. 4. Documentation of the following data: <ol style="list-style-type: none"> a. Site location, name of monitor, date and time of observations b. Number of adults, nests, and chicks observed within one-half mile of spectator viewing areas c. Sources of stressors (e.g., light, noise, trespass, debris) d. Unauthorized access within nesting colonies e. Counts of illegal pyrotechnics <p>Within 30 days following the completion of the fireworks display event, the qualified biologist shall prepare a Monitoring Report for submittal to the District that details the findings of the monitoring</p>	<p>Timing: A minimum of 30 days prior to, during, and within 30 days following each fireworks display event</p> <p>Method: Prepare a Monitoring Plan for fireworks display events in the South Bay that would occur within 1 mile of sensitive nesting colonies, conduct biological monitoring, and prepare a Monitoring Report documenting the results of the biological monitoring.</p>	<p>Implementation: Fireworks Organizer</p> <p>Monitoring and Reporting: Qualified agent, approved by the District, Fireworks Organizer</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>results. This report shall include background/introduction, methods, results, discussion, and recommendations sections. The District shall provide a copy of the report to the USFWS and CDFW and shall coordinate with these agencies regarding the results and recommendations of the report. Based on the review of the reports for two consecutive years of monitoring, the District, in coordination with these agencies, shall determine whether continued monitoring is required.</p>		
<p>Hydrology and Water Quality</p>		
<p>MM-WQ-1: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Fireworks Debris. The fireworks organizer and operator are required to comply with the following water quality-related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(d) Fireworks Chemical Composition and Packaging.</p> <ol style="list-style-type: none"> 1. Chemical Composition. <ol style="list-style-type: none"> B. All fireworks display events shall use alternative fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such alternative fireworks are not commercially available. 2. Packaging. <ol style="list-style-type: none"> A. Prior to commencement of a fireworks display event, the fireworks operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all fireworks to be used in the event. B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited. <p>(f) Best Management Practices (BMPs). Fireworks display events shall implement the following BMPs for fireworks display event</p>	<p>Timing: Prior to issuance of a fireworks permit, prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>preparation, discharge and clean-up:</p> <ol style="list-style-type: none"> 1. Fireworks display events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use. 2. Fireworks shall be brought to the barge and loaded in their California Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the fireworks display event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the fireworks display event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris. 3. Wires from the electric match placed in the fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the fireworks display event. 4. Once the fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the fireworks display event. 5. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the fireworks display event, the fireworks operator shall pick up all loose material on the barge, 		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>including all trash and debris resulting from the discharge of the fireworks, to prevent it from being discharged into the water while the barge is underway.</p> <ol style="list-style-type: none"> <li>6. Upon return to the loading facility, the fireworks operator shall clean the barge of all fireworks related material and shall photograph and properly dispose of all fireworks trash and debris. Unexploded fireworks and related components shall be collected and disposed of by the fireworks operator in accordance with all applicable regulations. Fireworks operators shall photograph the barge prior to and after cleaning. <li>7. Following the fireworks display event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the fireworks organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent fireworks using hand held fishnets, pool skimmers, or other similar equipment. <li>8. The morning after the fireworks display event, the fireworks organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove fireworks trash and debris. The fireworks organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal. <li>9. The morning after the fireworks display event, the fireworks organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The fireworks organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal. <li>10. Within ten (10) business days after a fireworks display event, the fireworks organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the dry weight of the fireworks trash and debris collected is less than fifty percent 		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>(50 percent) of the net weight of fireworks launched during the fireworks display event, the fireworks organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the fireworks display event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.</p> <p>(i) Compliance with San Diego Water Board General Permit.</p> <ol style="list-style-type: none"> 1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit. 2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article. 3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board. <p>(i) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of</p>		

Mitigation Measures	Timing and Methods	Responsible Parties
<p>the activity allowed under said Permit.</p> <p>(j) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant's failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.</p>		
<p>MM-WQ-2: Implementation of Water Quality-Related Conditions of the Proposed Ordinance for Human-Generated Trash and Litter. The fireworks organizer and operator are required to comply with the following water quality-related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(f) Best Management Practices. Fireworks display events shall implement the following BMPs for fireworks display event preparation, discharge and clean-up:</p> <p>11. For all Fourth of July fireworks display events and for Non-Fourth of July fireworks display events which are advertised to the public, the fireworks organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.</p>	<p>Timing: Prior to and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks Operator</p> <p>Verification: District</p>
<p>Noise and Vibration</p>		
<p>MM-NOI-1: Implementation of Noise-Related Conditions of the Proposed Ordinance. The fireworks organizer and operator are required to comply with the following noise related conditions of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(e) Protection of Sensitive Species and Habitat. The following</p>	<p>Timing: During each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer and Fireworks Operator</p> <p>Monitoring and Reporting: Fireworks Organizer, Fireworks</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:</p> <ol style="list-style-type: none"> 1. Location. Fireworks display events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches. 2. Salutes. Fireworks display events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25 percent) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display). 		<p>Operator</p> <p>Verification: District</p>
Transportation, Circulation, and Parking		
<p>MM-TRA-1: Implementation of the Transportation-Related Conditions of the Proposed Ordinance. The fireworks organizer is required to comply with the following transportation-related condition of the proposed ordinance.</p> <p>Section X.07 – Permits – Conditions of Approval</p> <p>(h) Event Transportation and Parking Management Plans. For all Fourth of July fireworks display events and for non-Fourth of July fireworks display events that are advertised to the public, the fireworks organizer shall prepare and submit an event transportation and parking management plan to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The Event Transportation and Parking Management Plan shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:</p> <ol style="list-style-type: none"> 1. Transportation management strategies, including but not limited to a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which 	<p>Timing: Prior to, during, and following each fireworks display event</p> <p>Method: Implement conditions of approval per Fireworks Display Ordinance</p>	<p>Implementation: Fireworks Organizer</p> <p>Monitoring and Reporting: Fireworks Organizer</p> <p>Verification: District</p>

Mitigation Measures	Timing and Methods	Responsible Parties
<p>shall be implemented for the fireworks display event; and</p> <p>2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, offsite parking arrangements, designated areas for taxi and rideshare pick-up/drop-off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations.</p> <p>(i) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state, and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city that has jurisdiction over all or any part of the activity allowed under said Permit.</p>		



File #: 2017-9901

DATE: May 25, 2017

SUBJECT:

SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT FIREWORKS DISPLAY EVENTS PROJECT

- A) CONDUCT PUBLIC HEARING, ADOPT RESOLUTION CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE “SAN DIEGO BAY AND IMPERIAL BEACH OCEANFRONT FIREWORKS DISPLAY EVENTS PROJECT,” ADOPT THE FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS, ADOPT THE MITIGATION MONITORING AND REPORTING PROGRAM, AND DIRECT FILING OF THE NOTICE OF DETERMINATION**
- B) ADOPT ORDINANCE ESTABLISHING THE “SAN DIEGO UNIFIED PORT DISTRICT FIREWORKS DISPLAY EVENT ORDINANCE” AS ARTICLE 14 OF THE SAN DIEGO UNIFIED PORT DISTRICT CODE TO GOVERN EXISTING AND PROPOSED NEW FIREWORKS DISPLAY EVENTS**

EXECUTIVE SUMMARY:

The proposed San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (herein referred to as “proposed project”) includes: (1) an ordinance establishing a District Code section to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District’s tenants (Ordinance) (see Attachment A, Draft Ordinance); and (2) four proposed new fireworks display events that would be located adjacent to the National City and Chula Vista Bayfronts.

In August 2015, the San Diego Unified Port District (District), as lead agency under the California Environmental Quality Act (CEQA), initiated the environmental review process for the proposed project. A Notice of Preparation (NOP) and Initial Study/Environmental Checklist were circulated for public review, which began on August 7, 2015 and ended on September 8, 2015. The District received a total of seven comment letters during the NOP public review period. Comments received on the NOP primarily included concerns related to: air quality, biological resources, greenhouse gas (GHG) emissions, hydrology and water quality, noise, and transportation and traffic.

In March 2017, a Draft Environmental Impact Report (EIR) was prepared for the proposed project and circulated for a minimum 45-day public review period, which began on March 17, 2017 and ended on May 2, 2017. A total of 10 comment letters were received during the Draft EIR public review period. Comments received during the Draft EIR public review period included many similar concerns to those received during the NOP public review period. They included comments on air quality, biological resources, GHG emissions, hydrology and water quality, noise, and transportation and

traffic. Staff determined that the comment letters did not raise any new significant environmental issues not already analyzed in the Draft EIR and therefore, pursuant to CEQA Guidelines Section 15088.5, recirculation of the Draft EIR was not required. The comment letters and responses to all written comments received on the Draft EIR are included in the Final EIR. In response to the comments received during the public review period, the Final EIR includes minor clarifications and corrections to the proposed project and mitigation measures, and revisions to figures. The additional information contained in the District's responses to comments clarifies and further substantiates the conclusions contained in the Draft EIR. The Final EIR, Findings of Fact and Statement of Overriding Considerations (SOC), and Mitigation Monitoring and Reporting Program (MMRP) have been prepared in accordance with CEQA, the State CEQA Guidelines, and the District's Guidelines for Compliance with CEQA. Copies of the Final EIR, Findings of Fact and SOC, and MMRP have been provided to the Board.

Staff recommends that the Board conduct a public hearing and adopt a resolution to certify the Final EIR, adopt Findings of Fact and SOC, MMRP, and direct filing of the Notice of Determination (NOD). Staff further recommends that the Board adopt the proposed Ordinance to govern existing and proposed new fireworks display events.

RECOMMENDATION:

- A) Conduct Public Hearing, Adopt Resolution Certifying the Final Environmental Impact Report for the "San Diego Bay And Imperial Beach Oceanfront Fireworks Display Events Project," Adopt the Findings of Fact and Statement of Overriding Considerations, Adopt the Mitigation Monitoring and Reporting Program, and Direct Filing of the Notice of Determination
- B) Adopt Ordinance Establishing the "San Diego Unified Port District Fireworks Display Event Ordinance" as Article 14 of the San Diego Unified Port District Code to Govern Existing and Proposed New Fireworks Display Events

FISCAL IMPACT:

The agenda item as no fiscal impact. However, the adoption of the San Diego Unified Port District Fireworks Display Event Ordinance will enable the District to charge an appropriate fee for permit applications.

COMPASS STRATEGIC GOALS:

This proposed project would govern existing and proposed new fireworks display events, which will enhance the visitor-serving experience of viewing fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach, while protecting the environment and maintaining a healthy and sustainable bay.

The agenda item supports the following Strategic Goal(s).

- A Port that the public understands and trusts.
- A thriving and modern maritime seaport.
- A vibrant waterfront destination where residents and visitors converge.
- A Port with a healthy and sustainable bay and its environment.
- A Port with a comprehensive vision for Port land and water uses integrated to regional plans.

DISCUSSION:

Background and Project Description

Fireworks display events have been occurring for many years at several locations within San Diego Bay and the Imperial Beach Oceanfront. Fireworks display events within the San Diego Bay take place off Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), and the National Steel and Shipbuilding Company (NASSCO) facility. In addition, fireworks display events currently take place along the Coronado Bayfront within Glorietta Bay (an inlet of San Diego Bay adjacent to Coronado Island) as well as the Imperial Beach Oceanfront. There are currently no fireworks display events along the National City or Chula Vista Bayfronts. Along the National City Bayfront, it is anticipated that future fireworks display events would take place from a barge within view of Pepper Park. Along the Chula Vista Bayfront, it is anticipated that fireworks display events would take place from a barge within view of both Chula Vista Bayside Park and the Chula Vista Bayfront Park (see Attachment B, Map of Existing and Proposed Fireworks Sites).

The proposed project consists of: (1) a proposed Ordinance to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants (see Attachment A, Draft Ordinance); and (2) four proposed new fireworks displays, which would be located adjacent to the National City and the Chula Vista Bayfronts and are anticipated to require a future discretionary action by the District.¹

Furthermore, the proposed project objectives include the following:

- To develop a District ordinance that establishes policies, performance standards, and other requirements that would be applied to fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach and require a discretionary action by the District or are operated by the District's tenants.
- To allow for the continued occurrence of traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants, including on the Fourth of July, providing a popular and region-wide way to celebrate and express civic pride.
- To allow for the continued occurrence of existing and future occurrence of proposed new traditional fireworks display events in and around San Diego Bay and the Pacific Ocean near Imperial Beach that require a discretionary action by the District or are operated by the District's tenants in a manner that considers the health, safety, and welfare of people, property, and the environment.
- To continue to enhance the visitor-serving experience of viewing fireworks display events from various vantage points around District tidelands by providing safe, high-quality fireworks display events using existing and new fireworks technologies as they become available.

CEQA Process

Notice of Preparation and Public Scoping Meeting for the Environmental Impact Report

In accordance with CEQA, an NOP was prepared for the EIR and circulated to solicit agency and public comments on the scope and content of environmental analysis to be included in the EIR. A minimum 30-day NOP public review period began on August 7, 2015 and ended on September 8, 2015. The NOP and notices of NOP availability were mailed or emailed to various federal, state, and local agencies; environmental groups, other organizations; and other interested individuals and groups.

As part of the NOP process, the District held a public scoping meeting on August 25, 2015 at the District Administration Building to provide the public and governmental agencies with information on the proposed project and the CEQA process, and to give the attendees an opportunity to identify environmental issues and alternatives that should be considered in the EIR.

Seven comment letters were received during the NOP public review period. The primary issues raised were related to air quality, biological resources, GHG emissions, hydrology and water quality, noise, and transportation and traffic. These concerns were considered in the preparation of the Draft EIR.

Environmental Impact Report

The District, as lead agency under CEQA, prepared a Draft EIR (UPD #EIR-2015-115; SCH #2015081013; Clerk Document No. 66168) for the proposed project. The Draft EIR evaluated whether the proposed project would result in potentially significant environmental effects related to: aesthetics and visual resources; air quality and health risk; biological resources; GHG emissions, climate change, and energy; hazards and hazardous materials; hydrology and water quality; land use and planning; noise and vibration; public services and facilities; transportation, circulation and parking; and cumulative impacts.

As described in the Draft EIR, the proposed project would not result in significant impacts to aesthetics and visual resources; GHG emissions, climate change, and energy; hazards and hazardous materials; land use and planning; and public services and facilities. The Draft EIR identified direct significant mitigable impacts to air quality and health risk; biological resources; hydrology and water quality; noise and vibration; and transportation, circulation and parking. The Draft EIR also identified direct significant and unavoidable impacts to hydrology and water quality; noise and vibration; and transportation, circulation, and parking. Furthermore, the Draft EIR identified cumulative significant and unavoidable impacts to hydrology and water quality. The significant and unavoidable impacts are further described below.

Hydrology and Water Quality: The EIR identifies a direct significant and unavoidable impact on hydrology and water quality associated with the proposed fireworks display events in that the events could pollute surface water if fireworks debris are not properly recovered. Required compliance with the water quality-related conditions of the proposed Ordinance (Mitigation Measure MM-WQ-1, as described in Section 4.6 in the Draft EIR) would reduce the water quality impacts associated the proposed new fireworks display events, but not to a level below significance. This is because uncontrollable factors such as weather conditions, amount of paper incinerated, sunken material, or material that is blown onto land may affect the ability to recover all post-show debris related to fireworks on surface waters. In addition, the EIR identifies a cumulative significant and unavoidable impact on hydrology and water quality

associated with the proposed fireworks display events in that new fireworks display events could contribute to an accumulation of trash and litter in San Diego Bay when combined with multiple past, present, and reasonably foreseeable future fireworks display events that occur in San Diego Bay. The cumulative impact would be reduced by requiring implementation of MM-WQ-1, but not to a level below significance.

Noise and Vibration: The EIR identifies a direct significant and unavoidable impact on noise and vibration in that the proposed new fireworks display events would result in a noise increase at the Coronado Cays homes to the west in the City of Coronado. Required compliance with noise-related conditions of the proposed Ordinance (MM-NOI-1, as described in Section 4.8 of the Draft EIR) would reduce overall noise levels from proposed new fireworks display events but not to a level below significance. The exact amount of noise reduction cannot be quantified because of the many variables (e.g., precise numbers and types of fireworks to be used, size or shells, etc.), but the reductions would be modest. Because loud noise (including noise levels that are intended to be significantly higher than ambient conditions) is considered an integral part of traditional fireworks display events, mitigation measures, such as avoiding the use of noise-generating fireworks (i.e., using silent fireworks), would fundamentally change the nature of the proposed project and the overall audible experience of the display.

Transportation, Circulation and Parking: The EIR identifies a direct significant and unavoidable impact on transportation, circulation, and parking in that the proposed new fireworks display events would have the potential to temporarily decrease the performance of a roadway, pedestrian, and bicycle facilities as a result of increased levels of vehicle, pedestrian, and bicycle activity. Required compliance with transportation-related conditions of the proposed Ordinance (MM-TRA-1 and MM-TRA-2, as described in Section 4.10 the Draft EIR), would reduce the traffic impacts during all Fourth of July fireworks display events and non-Fourth of July fireworks display events, but it cannot be determined with certainty that the impacts would be reduced to less-than-significant levels.

The Draft EIR also analyzed three alternatives to the proposed project: the CEQA-required No Project Alternative, Quiet Fireworks Display Events Alternative, and the No Salute Fireworks Alternative. The Draft EIR concluded that the Quiet Fireworks Display Events Alternative is the environmentally superior alternative and could substantially reduce the amount of noise generated by the proposed new fireworks display events and therefore, would reduce significant and unavoidable noise impacts compared to the proposed project. However, impacts to noise would remain significant and unavoidable. In addition, the Quiet Fireworks Display Events Alternative would reduce impacts associated with other resources, such as light and glare, biological resources, transportation, circulation, and parking. However, the Quiet Fireworks Display Events Alternative would not meet the fundamental proposed project objectives relating to the continuation of traditional fireworks display events.

The Draft EIR was circulated for a minimum 45-day public review period, which began on March 17, 2017 and ended on May 2, 2017. The District received 10 comment letters (totaling over 200 comments) from: the United States Department of Homeland Security FEMA Region IX; United States Department of the Interior Fish and Wildlife Service; State of California Governor's Office of Planning and Research State Clearinghouse and Planning Unit; California Coastal Commission; State of California Department of Fish and Wildlife; Coastal Environmental Rights Foundation; Fireworks & Stage FX America; H.P. Purdon & Company, Inc.; Pacific Tugboat Service; and Pyro

Spectaculars, Inc. Generally, the comment letters focused on air quality, biological resources, GHG emissions, hydrology and water quality, noise, and transportation and traffic. The comments are summarized as follows:

- United States Department of Homeland Security FEMA Region IX requested the District to review the current effective countywide Flood Insurance Rate Maps for the City and County of San Diego, as well floodplain management building requirements.
- United States Fish and Wildlife Service provided comments based on their knowledge of sensitive and declining species and their habitats. The primary concern raised in the comment letter was in regard to fireworks conducted in South San Diego Bay and impacts to nesting, roosting, rafting, foraging, seabirds, shorebirds, and waterfowl. Additionally, their letter expressed concern regarding the potential for avian behavioral responses to the bright lights, noise, and vibration associated with fireworks.
- State of California Governor's Office of Planning and Research State Clearinghouse and Planning Unit informed the District of the State agencies that received the Draft EIR for comment and the date the comment period closed, and included as an attachment the Draft EIR comment letters from the United States Fish and Wildlife Service and the California Department of Fish and Wildlife.
- California Coastal Commission expressed concern regarding potential biological resources impacts from excessive noise, light, chemical pollutants and firework debris on wildlife.
- State of California Department of Fish and Wildlife expressed concern regarding impacts associated with biological resources and provided various recommendations to assist the District in avoiding, minimizing, and adequately mitigating project-related impacts on biological resources in South San Diego Bay.
- Coastal Environmental Rights Foundation expressed concern regarding the Draft EIR methodology for determining water quality effects of the proposed new fireworks display events. The comment letter expressed concern regarding significant wildlife impacts associated with the proposed Chula Vista Bayfront fireworks. In addition, the comment letter raised concerns over the ability to detect impacts on eelgrass from fireworks display events and that direct and indirect impacts would not be detectable through surveys. Finally, the comment letter states the Draft EIR failed to analyze air quality and GHG emissions associated with spectator traffic.
- Fireworks & Stage FX America requested clarification on the project objectives in reference to consumer fireworks. They requested clarification on noise measurements as identified in the Draft EIR. They also requested several modifications to MM-BIO-1 in regard to the removal of labels, height of the fire retardant debris barrier, number of persons required for cleanup, post-event reporting, and security. The comment letter expressed concerns regarding the conditions of approval, as included in MM-WQ-1. They also requested clarification related to the responsibility for trash receptacles and collection as stated under MM-WQ-2. They also suggested that visitor traffic analysis should not apply to fireworks display events other than the Big Bay Boom (Fourth of July) or San Diego Symphony Pops (Non-Fourth of July). In addition, the letter stated the health risk assessment included in the Draft EIR did not consider

changes in chemical compounds. Finally, they requested clarification from the District regarding the proposed Ordinance conditions of approval.

- H.P. Purdon & Company, Inc. expressed concern with the proposed Ordinance, Section X.05, Permits – Application subsections (c) and (a) in regard to application submittal requirements and the timing of the National Pollutant Discharge Elimination System Permit. In addition, they expressed concern with proposed Ordinance, Section X.07, Permits – Conditions of Approval subsections (f) 7 through 9 and (h) in regard to Best Management Practices (BMPs), clean-up program, and the Event Transportation and Parking Management Plan.
- Pacific Tugboat Service expressed a safety concern regarding the height of the 6-foot-tall perimeter fence and suggested that the District lower the height of the fence or replace it with a curtain to contain debris.
- Pyro Spectaculars, Inc. expressed a legal opinion that the District did not have the jurisdiction to adopt the draft Ordinance. They also expressed concern regarding applicable regulations involving an application for a private fireworks display event. The comment letter objects to the proposed Ordinance, Section X.07, Permits – Conditions of Approval subsections (f)(2),(3), (7) through (10) which outlines requirements including: BMPs for fire-resistant debris barrier, wires in water, disposal of fireworks packaging material and debris, shipping cartons, and fireworks debris and trash. In addition, the letter expressed objection to the BMP required by the proposed Ordinance, Section X.07(d)(2)(b) which prohibits fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five percent of the mass of the shell or device. Finally, their letter stated the proposed Ordinance failed to state the correct standard for fireworks' weight.

In response to the comments received during the public review period, the Final EIR includes minor clarifications and corrections to the proposed project and mitigation measures, shown in underlined and strikethrough text, and revisions to figures. The additional information contained in the District's responses to comments clarifies and further substantiates the conclusions contained in the Draft EIR.

District staff prepared written responses to the comments and determined that all of the comments received did not raise any significant environmental issues not already analyzed in the Draft EIR. As such, none of the comments received constituted or resulted in significant new information requiring recirculation under CEQA Guidelines Section 15088.5.

Revisions and clarification have been made to the Draft EIR in accordance with CEQA Guidelines Section 15088.5. The Draft EIR has been revised to clarify that proposed new fireworks display events are anticipated to occur on barges only. Furthermore, the changes made include clarification of the fireworks packaging and BMPs for fireworks display event preparation, discharge, and clean-up; revising MM-BIO-1 and MM-WQ-1. Also, in response to the comments, the Draft EIR was updated to include MM-BIO-4 to provide assurance that biological impacts would be reduced to less than significant, even though impacts are already reduced to less than significant with implementation of MM-BIO-1. MM-BIO-4 requires biological monitoring and reporting for the proposed new fireworks display events in South San Diego Bay. The comment letters and responses to all written comments received on the Draft EIR are included in the Final EIR.

The Final EIR has been prepared in accordance with CEQA Guidelines Section 15132. The Final EIR consists of three volumes, organized as follows: Volume 1 contains an Executive Summary; errata

and revisions to the Draft EIR; a list of public agencies, organizations, and persons commenting on the Draft EIR; comments received on the Draft EIR and the District's responses to those comments; and the MMRP. Volume 2 includes the Draft EIR and Volume 3 includes the Draft EIR Appendices.

Pursuant to CEQA Guidelines Section 15090, prior to approving the project, the District must certify that: (1) the Final EIR has been completed in compliance with CEQA; (2) the Final EIR was presented to the Board, and the Board reviewed and considered the information contained in the Final EIR prior to its approval of the project; and (3) the Final EIR reflects the District's independent judgment and analysis.

Mitigation Monitoring and Reporting Program

As concluded by the Draft and Final EIR, the proposed project would result in various potentially significant environmental impacts. With the exception of significant unavoidable impacts from hydrology and water quality; noise and vibration; and transportation, circulation, and parking (described above); all project-level and cumulative impacts can be mitigated to below a level of significance with the implementation of the mitigation measures outlined in the Final EIR. The MMRP, which has been prepared in compliance with CEQA Guidelines Section 15097, identifies the following: (1) required mitigation measures; (2) when they are to be carried out; (3) the party responsible for carrying them out; and (4) their monitoring and reporting procedures. Compliance with the applicable mitigation measures identified in the MMRP contained in the Final EIR will be required by applicants subject to the proposed Ordinance.

Findings of Fact and Statement of Overriding Considerations

CEQA requires the District to make written findings of fact for each significant environmental impact identified in the Final EIR (CEQA Guidelines Section 15091), including: (1) impacts that are considered less than significant after mitigation; and (2) impacts that are considered significant and unavoidable. In addition, the significant and unavoidable impacts related to hydrology and water quality; noise and vibration; and transportation, circulation, and parking require the Board (1) to determine whether there is any feasible alternative that would substantially reduce a significant unavoidable impact of the project and (2) if there is no feasible such alternative, to also adopt an SOC identifying that the District has balanced the specific economic, legal, social, technological, and other benefits of the proposed project, including region-wide or statewide environmental benefits, against its unavoidable (i.e., can be mitigated but not to a level of less than significant) significant environmental risks in determining whether to approve the proposed project. Staff believes the alternatives analyzed in the EIR, which could substantially reduce any of the significant unavoidable impacts of the project, are not feasible for the reasons stated in Chapter 7.0 (Alternatives) of the EIR. Therefore, staff recommends the Board find that, pursuant to CEQA Guidelines Section 15093, the benefits of the proposed project include, but are not limited to, the following: (1) economic benefits in the form of increased business and tax revenue that indirectly result in increased patronage of surrounding businesses; (2) a free community event that is open to all residents and visitors to the waterfront; (3) performance standards to regulate the environmental effects of the existing and proposed new fireworks display events; (4) strategies for transportation during fireworks events which will support public safety; (5) incorporates conditions pertaining to limiting emissions related to air quality and encourages the use of alternative fireworks that burn cleaner and produce less smoke; and (6) conditions of approval that require additional clean-up of fireworks-generated trash and debris, thereby, ensuring green sea turtles and sensitive avian species are not injured by mistakenly consuming waste materials. The benefits are more particularly described in the draft SOC attached to the draft resolution. Based on these reasons, staff recommends the Board adopt the SOC.

Copies of the Final EIR, MMRP, and Findings of Fact and SOC have been provided to the Board and are available on the District's website for the public.

Ordinance

As stated above, the proposed project consists of a proposed Ordinance to govern existing and proposed new fireworks display events that occur within San Diego Bay and the Imperial Beach Oceanfront that require a discretionary action by the District or that are operated by the District's tenants (see Attachment A, Draft Ordinance). The proposed Ordinance addresses the following:

- Permit procedures and requirements for conducting fireworks displays
- Compliance with applicable federal, state, and local laws and regulations governing fireworks, including, but not limited to:
 - Code of Federal Regulations
 - Clean Water Act
 - California Health and Safety Code
 - California Code of Regulations
 - CEQA
 - California Coastal Act
- Compliance with applicable federal, state, and local plans and permits governing fireworks, including, but not limited to:
 - San Diego Regional Water Quality Control Board's General Permit for Public Display of Fireworks (Order No. R9-2011-0022)
 - District's Climate Action Plan
 - District's Stormwater Management and Discharge Control Code
 - San Diego Bay Integrated Natural Resources Management Plan
 - Chula Vista Bayfront Master Plan Natural Resources Management Plan
- Consistency with the features and characteristics of each individual fireworks display event analyzed in this Draft EIR, including, but not limited to:
 - Allowable launch site locations for individual displays
 - Total pounds of fireworks for individual displays
 - Allowable shell size(s) for individual displays
 - Frequency of individual displays
 - Duration of individual displays
- Compliance with the applicable mitigation measures identified in the MMRP for the proposed project.

General Counsel's Comments:

The Agenda Sheet and attachments thereto have been reviewed by the General Counsel's Office as presented to it and are approved as to form and legality.

Environmental Review:

The District's compliance with the requirements of CEQA is described in detail in the description of the "CEQA Process" above. The Board's consideration of the EIR and its adoption of the proposed resolution certifying the EIR, adopting the Findings of Fact and SOC, MMRP, and directing staff to file a NOD, will complete the CEQA process for this Project.

In addition, the proposed Board actions comply with Section 87 of the Port Act, which allows for the construction, reconstruction, repair, maintenance, and operation of public buildings, public assembly

and meeting places, convention centers, parks, playgrounds, bathhouses and bathing facilities, recreation and fishing piers, public recreation facilities, including, but not limited to: public golf courses, and for all works, buildings, facilities, utilities, structures, and appliances incidental, necessary, or convenient for the promotion and accommodation of any of those uses. The Port Act was enacted by the California Legislature and is consistent with the Public Trust Doctrine. Consequently, the proposed Board actions are consistent with the Public Trust Doctrine.

Finally, the proposed Board actions to certify the Final EIR, adopt Findings of Fact and SOC, MMRP, direct filing of the NOD, and to adopt the Ordinance to govern existing and proposed new fireworks display events do not allow for “development,” as defined in Section 30106 of the California Coastal Act, or “new development,” pursuant to Section 1.a. of the District’s Coastal Development Permit (CDP) Regulations. Therefore, issuance of a CDP or exclusion is not required at this time. However, development within the District’s jurisdiction requires processing under the District’s CDP Regulations, including processing any fireworks display events. The Board’s adoption of the Ordinance in no way limits the exercise of the District’s discretion under the District’s CDP Regulations, and if applications for fireworks display events are submitted, they will undergo review under the District’s CDP Regulations. That review may result in the issuance of a Coastal Act Exclusion or a CDP.

Equal Opportunity Program:

Not applicable.

PREPARED BY:

Dana Sclar
Senior Planner, Real Estate Development

Attachment(s):

Attachment A: Draft Ordinance

Attachment B: Map of Existing and Proposed Fireworks Sites

¹Discretionary actions for fireworks displays that may require District approval include, but are not limited to, the following: Sponsorship agreement, Special event permit, Lease and lease amendment, Tideland Use and Occupancy Permit, Right of Entry Permit, Coastal Act Categorical Determination of Exclusion, and Coastal Development Permit

ARTICLE 14

FIREWORKS DISPLAY ORDINANCE

Section 14.01 - TITLE

The title of this article shall be known as the “San Diego Unified Port District Fireworks Display Event Ordinance.”

Section 14.02 - PURPOSE

The purpose of this article is to establish a defined set of requirements and procedures by which the District and users of the District tidelands may continue to enjoy fireworks displays in and around San Diego Bay and the Pacific Ocean near Imperial Beach. Further, it is the intent of this article to protect the health, safety and welfare of persons, property and the environment within the District’s jurisdiction and to comply with federal, state and local laws and regulations governing the handling, possession, storage, loading, staging, launching and detonating of fireworks.

Section 14.03 - DEFINITIONS

For purposes of this article, certain words and phrases not otherwise defined in District Code section 0.03 shall be defined as follows, unless the context requires a different meaning:

“Alternative fireworks” means fireworks produced with new pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters.

“Applicant” means a person who submits an application to the District for a permit pursuant to this article.

“Application” means the District’s written form to be submitted by a person requesting a permit pursuant to this article.

“Barge” means a water vessel from which fireworks are launched or detonated.

“Best Management Practices” or “BMPs” means schedules of activities, prohibitions of practices, pollution prevention and educational practices, maintenance procedures, tools and other management practices used to prevent or reduce the discharge of pollutants directly to receiving waters to the maximum extent practicable. BMPs may include any type of pollution prevention and pollution control measure that can help to achieve compliance with this article.

“District” means the San Diego Unified Port District.

“District General Counsel” means the General Counsel of the District or her/his designee.

“Executive Director” means the Executive Director (President/CEO) of the District or her/his designee.

“Fireworks” means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment, including aerial shells, low-level comet or multi-shot devices or ground-level displays. The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks, torpedoes, skyrockets, roman candles, rockets, sparklers, party poppers, paper caps, chasers, fountains, smoke sparks, aerial bombs, and fireworks kits.

“Fireworks Display Event” means the handling, possession, storage, loading, staging, launching or detonating of fireworks on the land or waters within the District’s jurisdiction for viewing by the public or any group of persons exceeding twenty-five (25) in number.

“Fireworks Operator” means a pyrotechnic operator licensed by the State of California, who by examination, experience and training has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted, and who is responsible for supplying, staging, launching or detonating the fireworks used in a fireworks display event.

“Fireworks Organizer” means a person who proposes to conduct a fireworks display event and who is responsible for obtaining the funding and approvals for a fireworks display event and for contracting with a fireworks operator to produce a fireworks display event.

“Fourth of July Fireworks Display Event” means a fireworks display event that occurs annually on the Fourth of July to express patriotism and civic pride and to celebrate the signing of the Declaration of Independence of the United States of America.

“Non-Fourth of July Fireworks Display Event” means a fireworks display event that occurs on a date other than the Fourth of July.

“Operation Clean Sweep” means the annual cleanup event sponsored by the San Diego Port Tenants Association and District, among others, where volunteers remove trash and debris from San Diego Bay.

“Permit” means the District-issued authorization for an applicant to conduct a fireworks display event pursuant to this article.

“Person” means an individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency or other legal entity, or the agent or employee thereof.

“Pounds” means the net explosive weight of fireworks.

“Salute” means an aerial shell as well as other pyrotechnic items whose primary effects are loud noise generated by detonation and flash of light.

“San Diego Bay Fourth of July Fireworks Display Event” means the annual fireworks display event which occurs on the Fourth of July at up to four (4) locations in northern San Diego Bay and is currently known as the “Big Bay Boom.” The San Diego Bay Fourth of July Fireworks Display Event will be referred to in this article as the Big Bay Boom.

"San Diego Water Board" means the California Regional Water Quality Control Board for the San Diego Region.

"San Diego Water Board General Permit" means California Regional Water Quality Control Board for the San Diego Region Order No. R9-2011-0022/NPDES No. CAG999002, General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States, including any updates and amendments thereto.

“Sponsor” means a person who contributes funds, services, or other forms of assistance to a fireworks organizer in support of a fireworks display event.

Section 14.04 - PROHIBITIONS

(a) It shall be unlawful for any Person to handle, possess, store, load, stage, launch or detonate Fireworks on land or water within District jurisdiction without first having obtained a Permit from the Executive Director as provided in this section. By signing said Permit, each Permit recipient acknowledges and agrees to comply with all of the applicable terms and conditions that may be specified in such Permit and this article.

(b) Any Person who receives a discretionary lease, permit, license or other entitlement for use or a contract, grant, subsidy, loan or other form of financial assistance from the District in connection with a Fireworks Display Event shall also obtain a Permit from the Executive Director as provided in this article. By signing said Permit, each Permit recipient acknowledges and agrees to comply with all of the applicable terms and conditions that may be specified in such Permit and this article.

Section 14.05 - PERMITS - APPLICATION

Whenever the privilege of doing any of the acts hereinbefore enumerated in this article requires obtaining a Permit from the Executive Director, the following procedure shall be followed:

(a) An application for a Permit shall be filed with the District not less than sixty (60) days before the date on which the Fireworks Display Event is proposed to occur.

(b) The application shall be in writing, in a form approved by the District, and shall include, at minimum, the following information: the Person who proposes to handle, possess, store, load, stage, launch or detonate Fireworks, including if applicable the Fireworks Organizer, Fireworks Operator and Sponsor of the Fireworks Display Event; the date, time and duration of the proposed Fireworks Display Event; the location(s) of the proposed Fireworks Display Event, including the loading, staging and launching sites; the total number of pounds, shell sizes and types of Fireworks to be used; and the proposed event transportation and parking management plan for the Fireworks Display Event.

(c) The application shall include copies of the Applicant's Notice of Intent for coverage under the San Diego Water Board General Permit, the San Diego Water Board's Notice of Enrollment of the proposed Fireworks Display Event under said General Permit, and the Best Management Practices Plan approved by the San Diego Water Board for the proposed Fireworks Display Event.

(d) When the application is deemed complete, the Executive Director shall review the application and determine whether the proposed Fireworks Display Event complies with all of the requirements of section 14.07 (Permit – Conditions of Approval) of this article. If the proposed Fireworks Display Event complies with all of the requirements of section 14.07 (Permit – Conditions of Approval) of this article, the Executive Director shall issue a Permit.

(e) Each Permit issued shall state the date, time and location of the Fireworks Display Event for which it is issued, the name of the Person to whom it is issued and all mandatory conditions upon which the Permit is given.

(f) An application for a permit for a Fireworks Display Event at a location not identified in Section 14.07(a) of this article may be granted by the Executive Director provided that (i) environmental review for the proposed Fireworks Display Event has been completed and approved or certified by the District as required by the California Environmental Quality Act, Public Resources Code § 21000, et seq. prior to issuance of a permit and (ii) the applicant has obtained all other permits and approvals as required by law, including without limitation

approvals and permits required under the California Coastal Act, Public Resources Code § 30000, et seq.

Section 14.06 - PERMITS – PUBLIC NOTICE

(a) Within five (5) business days after the issuance of a Permit pursuant to this article, the Executive Director shall give public notice of the issuance of such Permit by posting a copy of the Permit on the District’s website.

Section 14.07 - PERMITS - CONDITIONS OF APPROVAL

All permits issued by the Executive Director shall be subject to the following terms and conditions:

- (a) Location of Fireworks Display Events.
1. Fourth of July Fireworks Display Events shall occur only at the following locations:
 - A. Big Bay Boom, at up to four (4) locations in northern San Diego Bay;
 - B. Fourth of July Imperial Beach Fireworks, at one (1) location along the Imperial Beach Pier;
 - C. Fireworks Over Glorietta Bay, at one (1) location in Glorietta Bay;
 - D. Chula Vista Fourth of July, at one (1) location adjacent to the Chula Vista Bayfront; and
 - E. National City Fourth of July, at one (1) location adjacent to the National City Bayfront.
 2. Non-Fourth of July Fireworks Display Events shall occur only at the following locations:
 - A. National Steel and Shipbuilding Company (NASSCO) shipyard, not to exceed two (2) displays per year along NASSCO Pier 12;
 - B. U.S.S. Midway Museum, not to exceed twenty-three (23) displays per year on or adjacent to the U.S.S. Midway Museum;
 - C. San Diego Symphony Summer Pops Concerts, not to exceed twenty (20) displays per year adjacent to Embarcadero Marina Park South;

D. Our Lady of Rosary Church Annual procession, not to exceed one (1) display per year along Harbor Drive and at end of Grape Street Pier; and

E. Chula Vista Bayfront, not to exceed two (2) displays per year adjacent to the Chula Vista Bayfront.

(b) Duration of Fireworks Display Events.

1. Fourth of July Fireworks Display Events shall not exceed twenty (20) minutes in duration.
2. Non-Fourth of July Fireworks Display Events shall not exceed ten (10) minutes in duration.

(c) Size of Fireworks Display Events.

1. Fourth of July Fireworks Display Events:

A. Big Bay Boom, not to exceed a cumulative 5,342 pounds of fireworks with shell sizes not to exceed 10 inches;

B. Fourth of July Imperial Beach Fireworks, not to exceed 456 pounds of fireworks with shell sizes not to exceed 10 inches;

C. Fireworks Over Glorietta Bay, not to exceed 397 pounds of fireworks with shell sizes not to exceed 10 inches;

D. National City Fourth of July, not to exceed 400 pounds of fireworks with shell sizes not to exceed 8 inches; and

E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks with shell sizes not to exceed 8 inches.

2. Non-Fourth of July Fireworks Display Events:

A. NASSCO shipyard, not to exceed 281 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 439 pounds of fireworks per year;

B. U.S.S. Midway Museum, not to exceed 235 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 1,759 pounds of fireworks per year;

C. San Diego Symphony Summer Pops Concerts, not to exceed 95 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 1,498 pounds of fireworks per year;

D. Our Lady of Rosary Church Annual procession, not to exceed 18 pounds of fireworks with shell sizes not to exceed 6 inches; and

E. Chula Vista Bayfront, not to exceed 114 pounds of fireworks per display with shell sizes not to exceed 8 inches, or a cumulative total of 228 pounds of fireworks per year.

(d) Fireworks Chemical Composition and Packaging.

1. Chemical Composition.

A. The Big Bay Boom Fourth of July Fireworks Display Event shall use Fireworks which contain no more than 0.32% copper (Cu) per pound of explosive firework material, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that the total copper emissions from the proposed Big Bay Boom Fireworks Display Event will not exceed seventeen (17) pounds. Fireworks which do not conform to the foregoing requirement, but were lawfully purchased prior to the effective date of this article, may be used for a period of six months after the effective date of this article.

B. All Fireworks Display Events shall use Alternative Fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such Alternative Fireworks are not commercially available.

2. Packaging.

A. Prior to commencement of a Fireworks Display Event, the Fireworks Operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all Fireworks to be used in the event.

B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.

(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian

breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:

1. Location. Fireworks Display Events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches.

2. Salutes. Fireworks Display Events shall not use concussion type, non-color shells such as “salutes” or “reports” during the initial twenty-five percent (25%) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display).

3. Security. For Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the Fireworks Organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays. In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay.

4. Signage. For Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the Fireworks Organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.

5. Education. Beginning not less than seven (7) days before Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the Fireworks Organizer shall implement a public education program using daily announcements on social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to reminds viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).

(f) Best Management Practices. Fireworks Display Events shall implement the following BMPs for Fireworks Display Event preparation, discharge and clean-up:

1. Fireworks Display Events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.

2. Fireworks shall be brought to the barge and loaded in their U.S. Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the Fireworks Display Event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the Fireworks Display Event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.

3. Wires from the electric match placed in the Fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the Fireworks Display Event.

4. Once the Fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the Fireworks Display Event.

5. Following the Fireworks Display Event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the Fireworks Display Event, the Fireworks Operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the Fireworks, to prevent it from being discharged into the water while the barge is underway.

6. Upon return to the loading facility, the Fireworks Operator shall clean the barge of all Fireworks related material and shall photograph and properly dispose of all Fireworks trash and debris. Unexploded Fireworks and related components shall be collected and disposed of by the Fireworks Operator in accordance with all applicable regulations. Fireworks Operators shall photograph the barge prior to and after cleaning.

7. Following the Fireworks Display Event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the Fireworks Organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation

zone to gather any floating debris from spent Fireworks using hand held fishnets, pool skimmers, or other similar equipment.

8. The morning after the Fireworks Display Event, the Fireworks Organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove Fireworks trash and debris. The Fireworks Organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.

9. The morning after the Fireworks Display Event, the Fireworks Organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The Fireworks Organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.

10. Within ten (10) business days after a Fireworks Display Event, the Fireworks Organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris collected pursuant to subdivisions (5) through (9) above. If the dry weight of the Fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the Fireworks Display Event, the Fireworks Organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the Fireworks Display Event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.

11. For all Fourth of July Fireworks Display Events and for Non-Fourth of July Fireworks Display Events which are advertised to the public, the Fireworks Organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

(g) Eelgrass Avoidance and Mitigation. For Fireworks Display Events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this

impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.

(h) Event Transportation and Parking Management Plans. For all Fourth of July Fireworks Display Events and for Non-Fourth of July Fireworks Display Events which are advertised to the public, the Fireworks Organizer shall prepare and submit an event transportation and parking management plan (ETPMP) to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The ETPMP shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:

1. Transportation management strategies, including but not limited to, a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which shall be implemented for the Fireworks Display Event; and

2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, off-site parking arrangements, designated areas for taxi and rideshare pick up/drop off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations.

(i) Compliance with San Diego Water Board General Permit.

1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.

2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article.

3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.

(j) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.

(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant's failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.

(l) Indemnity: The Applicant shall indemnify and hold harmless the District, its board, officers and employees, from any and all claim of loss, liability or damage arising out of the Fireworks Display Event, including but not limited to the issuance of the District Permit, or in connection with the handling, possession, storage, loading, staging, launching or detonating of Fireworks by the Applicant, its officers, employees, contractors, agents or other representatives, howsoever caused, whether such loss, liability or damage results, either directly or indirectly, from the acts, omissions or negligence of the Applicant, its officers, employees, contractors, agents or other representatives, in connection with the handling, possession, storage, loading, staging, launching or detonation of Fireworks pursuant to said Permit.

(m) Insurance: The Applicant shall file with the Executive Director, in a form approved by the District General Counsel, a policy of public liability and property damage insurance, in such amounts and form as the Executive Director may specify, indemnifying the District, its boards, officers and employees, as their interest may appear under the terms and conditions of said Permit. The Permit shall not become effective until after such policy of insurance has been received by the District.

(n) Performance Bond: For public Fireworks Display Events with over 500 spectators the Applicant shall post a faithful performance bond, in a form approved by the District General Counsel, or in lieu thereof the equivalent in cash, in an amount sufficient in the opinion of the Executive Director to cover costs associated with the Fireworks Display Event allowed under the

permit, including without limitation the costs of providing security for the protection of sensitive species and habitat, and cleaning up and removing debris, rubbish and trash. The permit shall not become effective until after such faithful performance bond, or cash in lieu thereof, has been posted with and received by the District.

(o) Mitigation Measures: All permit applications shall be reviewed by the District for consistency with the Mitigation Monitoring and Reporting Program (MMRP) from the Final Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project, as certified by the Board of Port Commissioners, and all applicable mitigation measures from the MMRP shall be identified as required conditions of the approved permit issued by the District.

Section 14.8 – GENERAL PROVISIONS

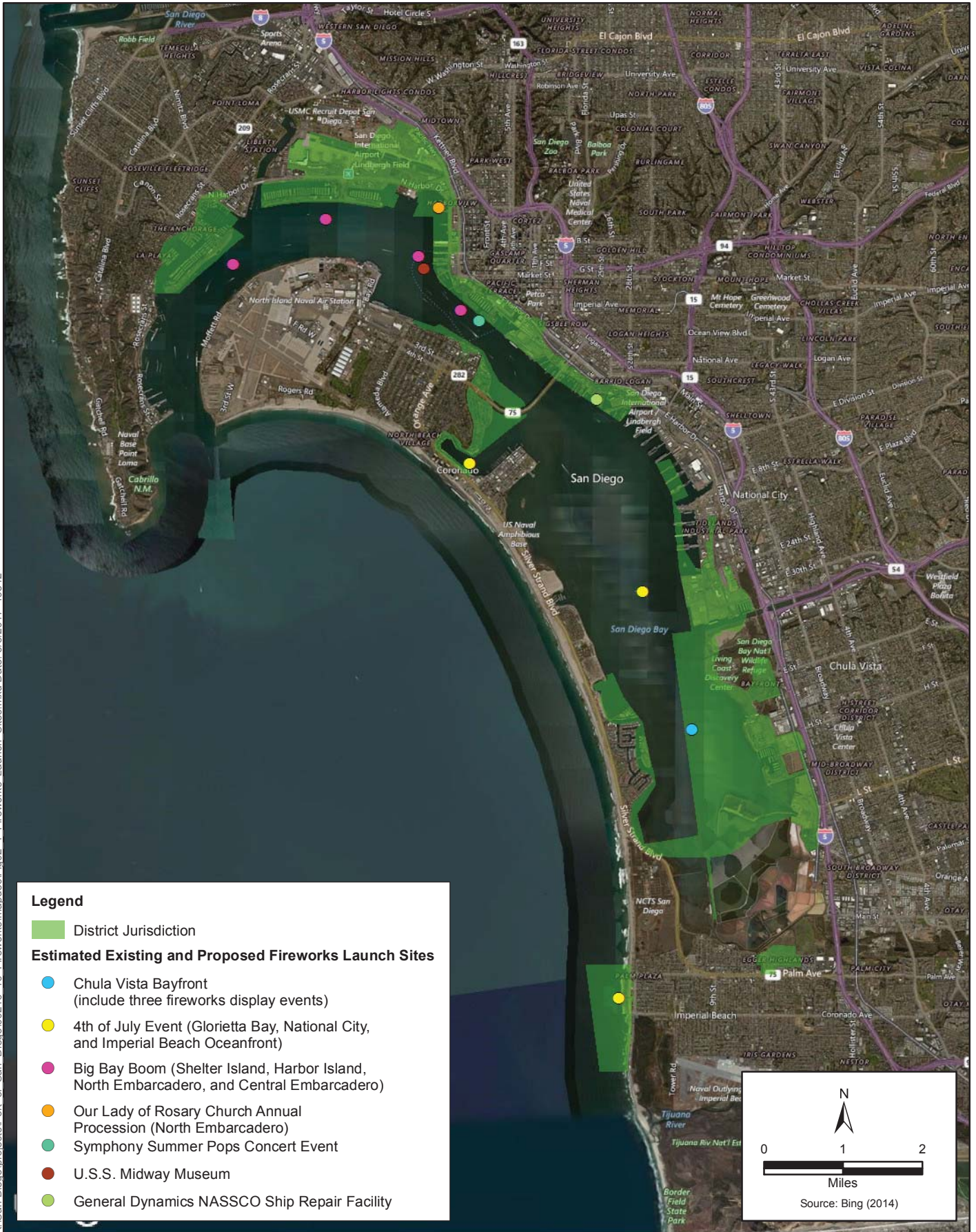
(a) Preemption. The provisions of this article do not apply where any federal or state law regulates the handling, possession, storage, loading, staging, launching or detonating of Fireworks if the federal or state law preempts local regulation or the federal or state law is more restrictive.

(b) Severability. If any provision of this article or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of this article which can be given effect without the invalid provisions or application, and to this end the provisions of this section are severable.

(c) Cost Recovery. The Applicant shall pay a fee to the District for the cost of services and administrative acts of the District incurred in processing a permit application.

Section 14.9 - ENFORCEMENT

Any person who violates this article or who fails to comply with the terms and conditions of a permit issued pursuant to this article shall be subject to punishment in accordance with District Code section 0.11, General Penalty, and section 0.13, Permit Violations.



K:\San Diego\projects\Port of San Diego\mapdocs\Fig02_1_Fireworks_Launch_Sites.mxd Date: 5/8/2017 19542



Figure 2-1
Estimated Existing and Proposed Fireworks Launch Sites
San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events EIR
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 Reso/Ords D2# 1175864

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RESOLUTION _____

RESOLUTION TO CERTIFY FINAL ENVIRONMENTAL IMPACT REPORT, ADOPT FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS, ADOPT MITIGATION MONITORING AND REPORTING PROGRAM, AND DIRECT FILING OF NOTICE OF DETERMINATION

WHEREAS, the San Diego Unified Port District (District) is a public corporation created by the Legislature in 1962 pursuant to Harbors and Navigation Code Appendix I (Port Act); and

WHEREAS, Section 21 of the Port Act states that the Board of Port Commissioners (Board) may pass all necessary ordinances and resolutions for the regulation of the District; and

WHEREAS, Section 35 of the Port Act states that the Board may do all other acts necessary and convenient for the exercise of its powers; and

WHEREAS, fireworks display events have been occurring for many years at several locations within San Diego Bay and the Imperial Beach Oceanfront, including off Shelter Island, Harbor Island, Centre City Embarcadero (which includes North Embarcadero, Central Embarcadero, and South Embarcadero), and the National Steel and Shipbuilding Company (NASSCO) facility, as well as along the Coronado Bayfront within Glorietta Bay (an inlet of San Diego Bay adjacent to Coronado Island) and off the Imperial Beach Pier; and

WHEREAS, in the interest of protecting the environment and the public health, safety and welfare, the District has proposed the adoption of an ordinance that establishes policies, performance standards and other requirements that would apply to all fireworks display events that occur in and around San Diego Bay and the Pacific Ocean near Imperial Beach and require a discretionary action by the District or are operated by the District's tenants (Proposed Ordinance); and

WHEREAS, the District has proposed four additional new fireworks display events, including three along the Chula Vista Bayfront and one along the National City Bayfront, which also would be subject to the Proposed Ordinance; and

WHEREAS, the Proposed Ordinance and the proposed four additional new fireworks display events along the Bayfront in Chula Vista and National City are collectively referred to as the "Proposed Project"; and

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WHEREAS, pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code Section 21000, et seq., and its implementing regulations, 14 California Code of Regulations Section 15000, et seq. ("CEQA Guidelines"), the District prepared a Draft Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project (UPD #EIR-2015-115; SCH #2015081013) for the Proposed Project ("Draft EIR"), which was made available for public review and comment as required by law in March 2017; and

WHEREAS, the District received comments letters concerning the Draft EIR from several public agencies and organizations and, pursuant to CEQA Guidelines section 15088, the District has prepared written responses to all comments received on the Draft EIR during the public comment period which raised environmental issues; and

WHEREAS, the District has determined that the comments received on the Draft EIR do not contain any significant new information within the meaning of CEQA Guidelines section 15088.5 and therefore recirculation of the Draft EIR is not required; and

WHEREAS, the District has prepared a Final Environmental Impact Report ("Final EIR") which contains the information required by CEQA Guidelines section 15132, including the Draft EIR and the revisions and additions thereto, technical appendices, public comments and the District's responses to public comments on the Draft EIR, and which has been filed with the District Clerk; and

WHEREAS, pursuant to CEQA Guidelines sections 15091, 15093 and 15097, the District has prepared Findings of Fact and a Statement of Overriding Considerations and a Mitigation Monitoring and Reporting Program, which have been filed with the District Clerk; and

WHEREAS, the District Clerk has caused notice to be duly given of a public hearing in this matter in accordance with law, as evidenced by the affidavit of publication and affidavit of mailing on file with the District Clerk; and

WHEREAS, all materials with regard to the Proposed Project were made available to the Board for its review and consideration of the Proposed Project including, but not limited to, the following:

1. The Draft EIR and appendices, dated March 2017;
2. The Final EIR and its appendices, dated May 2017;
3. The Staff Report and Agenda Sheet, dated May [x], 2017;
4. The proposed Findings of Fact and Statement of Overriding

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Considerations, dated May 2017;

5. The proposed Mitigation Monitoring and Reporting Program, dated May 2017; and

6. All documents and records filed in this proceeding by the District and other interested parties;

WHEREAS, a duly noticed public hearing was held on May 25, 2017, before the Board, at which the Board received public testimony, reviewed and considered all testimony and materials made available to the Board regarding the Proposed Project; and

WHEREAS, having reviewed and considered all testimony and materials made available to the Board, including but not limited to the Final EIR, the staff reports and all the testimony and evidence in the record of the proceedings with respect to the Proposed Project, the Board took the actions hereinafter set forth.

NOW, THEREFORE, BE IT RESOLVED by the Board of Port Commissioners of the San Diego Unified Port District, as follows:

1. The Board finds the facts recited above are true and further finds that this Board has jurisdiction to consider, approve and adopt the subject of this Resolution.

2. The Board finds and determines that the applicable provisions of CEQA, its implementing State Guidelines, and District Guidelines have been duly observed in conjunction with said hearing and the considerations of this matter and all of the previous proceedings related thereto.

3. The Board finds and determines that (a) the Final EIR is complete and adequate in scope and has been completed in compliance with CEQA and the State and District Guidelines for implementation thereof, (b) the Final EIR was presented to the Board, and the Board has fully reviewed and considered the information in Final EIR prior to approving the Proposed Project, (c) the Final EIR reflects the District's independent judgment and analysis, and, therefore, the Final EIR is hereby declared to be certified in relation to the subject of this Resolution.

4. The Board finds and determines that the Proposed Project is approved despite the existence of certain significant environmental effects identified in the Final EIR and, pursuant to Public Resources Code Section 21081 and CEQA Guidelines Section 15091, the Board hereby makes and adopts the findings with respect to each significant environmental effect as set forth in the Findings of Fact, appended hereto as Exhibit "A" and made a part hereof by this reference, and declares that it considered the evidence described

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in connection with each such finding.

5. The Board further finds and determines that the Proposed Project is approved despite the existence of certain unavoidable significant environmental effects identified in the Final EIR, and, pursuant to Public Resources Code section 21081(b) and CEQA Guidelines section 15093, the Board hereby makes and adopts the Statement of Overriding Considerations appended hereto as Chapter 7.0 of Exhibit A and made part hereof by this reference, and finds that such effects are considered acceptable because the benefits of the Proposed Project outweigh the unavoidable environmental effects.

6. Pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15091(d), the Board hereby adopts and approves the Mitigation Monitoring and Reporting Program, which is appended hereto as Exhibit "B" and is made a part hereof by this reference, with respect to the significant environmental effects identified in the Final EIR, and hereby makes and adopts the provisions of the Mitigation Monitoring and Reporting Program as conditions of approval for the Proposed Project.

7. Pursuant to Public Resources Code Section 21152 and CEQA Guidelines Section 15094, the Clerk of the Board shall cause a Notice of Determination to be filed with the Clerk of the County of San Diego and the State Office of Planning and Research. Unless the Proposed Project is declared exempt herein and a Certificate of Filing Fee Exemption is on file, the Proposed Project is not operative, vested or final until the filing fees required pursuant to Fish and Game Code Section 711.4 are paid to the Clerk of the County of San Diego.

8. Pursuant to Public Resources Code Section 21081.6(a)(2) and CEQA Guidelines Section 15091(e), the location and custodian of the documents and other materials which constitute the record of proceedings on which this Resolution is based is the Clerk, San Diego Unified Port District, 3165 Pacific Highway, San Diego, California 92101.

Attachments:

Exhibit A: Findings of Fact and Statement of Overriding Considerations

Exhibit B: Mitigation Monitoring and Reporting Program

PASSED AND ADOPTED by the Board of Port Commissioners of the San Diego Unified Port District, this 25th day of May, 2017, by the following vote:

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SAN DIEGO UNIFIED PORT DISTRICT

ORDINANCE xxxx

ORDINANCE ESTABLISHING THE “SAN DIEGO UNIFIED PORT DISTRICT FIREWORKS DISPLAY EVENT ORDINANCE” AS ARTICLE 14 OF THE SAN DIEGO UNIFIED PORT DISTRICT CODE TO GOVERN EXISTING AND PROPOSED NEW FIREWORKS DISPLAYS

WHEREAS, the San Diego Unified Port District (District) is a public corporation created by the Legislature in 1962 pursuant to Harbors and Navigation Code Appendix I (Port Act); and

WHEREAS, Sections 4, 21, 35, 55, 56 and 87 of the Port Act grant the District broad general police powers, including the ability to enact ordinances to protect, preserve and enhance physical access to the bay, the natural resources of the bay, and the quality of water in the bay; and

WHEREAS, Section 55(a) of the Port Act requires the Board of Port Commissioners (BPC) to make and enforce all necessary rules and regulations governing the use and control of all navigable waters and all tidelands and submerged lands, filled or unfilled, and other lands within the territorial limits of the District; and

WHEREAS, Section 55(b) of the Port Act requires the BPC to regulate and control the anchoring, mooring, towing and docking of all vessels; and

WHEREAS, Section 55(c) of the Port Act authorizes the BPC to establish and maintain a harbor police and harbor fire protection within the territorial limits of the District; and

WHEREAS, Section 56 of the Port Act requires the BPC to make and enforce such local police and sanitary regulations relative to the construction, maintenance, operation, and use of all public services and public utilities in the District, operated in connection with or for the promotion or accommodation of commerce, navigation, fisheries, and recreation therein as are now vested in the District; and

WHEREAS, it is necessary for the District to regulate fireworks display events within San Diego Bay or the Imperial Beach oceanfront that require a discretionary action by the District or that are operated by the District’s tenants in order to encourage and promote commerce, navigation, fisheries, and recreation in and through its jurisdiction; and

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WHEREAS, the regulations included in this Ordinance are adopted pursuant to the authority granted to the District by the Port Act and the Port District Code to regulate the use and control of all navigable waters and all tidelands and submerged lands, filled or unfilled, and other lands within the territorial limits of the District, to regulate and control the anchoring, mooring, towing and docking of all vessels, and to enact ordinances to protect, preserve and enhance physical access to the bay, the natural resources of the bay, and the quality of water in the bay; and

WHEREAS, on May 25, 2017, the District has considered and certified a Final Environmental Impact Report pursuant to the California Environmental Quality Act, State CEQA Guidelines, and District procedures relative to the adoption of this Ordinance; and

WHEREAS, the District Clerk has caused notice to be duly given of a public hearing in this matter in accordance with law, as evidenced by the affidavit of publication and affidavit of mailing on file with the District Clerk; and

WHEREAS, the District has considered all comments received at the public meeting on May 25, 2017 prior to adoption of this Ordinance; and

WHEREAS, the District's approval of this Ordinance reflects the BPC's independent judgement and analysis.

NOW, THEREFORE, the Board of Port Commissioners of the San Diego Unified Port District does ordain as follows:

Section 1. That the San Diego Unified Port District Code is amended to add Article 14 regulating fireworks display events requiring a discretionary approval from the San Diego Unified Port District as follows:

ARTICLE 14 - FIREWORKS DISPLAY ORDINANCE

Section 14.01 – TITLE

The title of this article shall be known as the “San Diego Unified Port District Fireworks Display Event Ordinance.”

Section 14.02 - PURPOSE

The purpose of this article is to establish a defined set of requirements and procedures by which the District and users of the District tidelands may continue to enjoy fireworks displays in and around San Diego Bay and the Pacific Ocean near Imperial Beach. Further, it is the intent of this article to protect the health,

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safety and welfare of persons, property and the environment within the District's jurisdiction and to comply with federal, state and local laws and regulations governing the handling, possession, storage, loading, staging, launching and detonating of fireworks.

Section 14.03 – DEFINITIONS

For purposes of this article, certain words and phrases not otherwise defined in District Code section 0.03 shall be defined as follows, unless the context requires a different meaning:

“Alternative fireworks” means fireworks produced with new pyrotechnic formulas that replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters.

“Applicant” means a person who submits an application to the District for a permit pursuant to this article.

“Application” means the District's written form to be submitted by a person requesting a permit pursuant to this article.

“Barge” means a water vessel from which fireworks are launched or detonated.

“Best Management Practices” or “BMPs” means schedules of activities, prohibitions of practices, pollution prevention and educational practices, maintenance procedures, tools and other management practices used to prevent or reduce the discharge of pollutants directly to receiving waters to the maximum extent practicable. BMPs may include any type of pollution prevention and pollution control measure that can help to achieve compliance with this article.

“District” means the San Diego Unified Port District.

“District General Counsel” means the General Counsel of the District or her/his designee.

“Executive Director” means the Executive Director (President/CEO) of the District or her/his designee.

“Fireworks” means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment, including aerial shells, low-level comet or multi-shot devices or ground-level displays. The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks, torpedoes, skyrockets, roman candles, rockets, sparklers, party poppers, paper caps, chasers, fountains, smoke sparks, aerial bombs, and fireworks kits.

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“Fireworks Display Event” means the handling, possession, storage, loading, staging, launching or detonating of fireworks on the land or waters within the District’s jurisdiction for viewing by the public or any group of persons exceeding twenty-five (25) in number.

“Fireworks Operator” means a pyrotechnic operator licensed by the State of California, who by examination, experience and training has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted, and who is responsible for supplying, staging, launching or detonating the fireworks used in a fireworks display event.

“Fireworks Organizer” means a person who proposes to conduct a fireworks display event and who is responsible for obtaining the funding and approvals for a fireworks display event and for contracting with a fireworks operator to produce a fireworks display event.

“Fourth of July Fireworks Display Event” means a fireworks display event that occurs annually on the Fourth of July to express patriotism and civic pride and to celebrate the signing of the Declaration of Independence of the United States of America.

“Non-Fourth of July Fireworks Display Event” means a fireworks display event that occurs on a date other than the Fourth of July.

“Operation Clean Sweep” means the annual cleanup event sponsored by the San Diego Port Tenants Association and District, among others, where volunteers remove trash and debris from San Diego Bay.

“Permit” means the District-issued authorization for an applicant to conduct a fireworks display event pursuant to this article.

“Person” means an individual, association, partnership, nonprofit organization, corporation, limited liability company, trustee, municipality, public agency or other legal entity, or the agent or employee thereof.

“Pounds” means the net explosive weight of fireworks.

“Salute” means an aerial shell as well as other pyrotechnic items whose primary effects are loud noise generated by detonation and flash of light.

“San Diego Bay Fourth of July Fireworks Display Event” means the annual fireworks display event which occurs on the Fourth of July at up to four (4) locations in northern San Diego Bay and is currently known as the “Big Bay Boom.” The San Diego Bay Fourth of July Fireworks Display Event will be referred to in this article as the Big Bay Boom.

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"San Diego Water Board" means the California Regional Water Quality Control Board for the San Diego Region.

"San Diego Water Board General Permit" means California Regional Water Quality Control Board for the San Diego Region Order No. R9-2011-0022/NPDES No. CAG999002, General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Firework Pollutant Waste Discharges to Waters of the United States, including any updates and amendments thereto.

"Sponsor" means a person who contributes funds, services, or other forms of assistance to a fireworks organizer in support of a fireworks display event.

Section 14.04 – PROHIBITIONS

(a) It shall be unlawful for any Person to handle, possess, store, load, stage, launch or detonate Fireworks on land or water within District jurisdiction without first having obtained a Permit from the Executive Director as provided in this section. By signing said Permit, each Permit recipient acknowledges and agrees to comply with all of the applicable terms and conditions that may be specified in such Permit and this article.

(b) Any Person who receives a discretionary lease, permit, license or other entitlement for use or a contract, grant, subsidy, loan or other form of financial assistance from the District in connection with a Fireworks Display Event shall also obtain a Permit from the Executive Director as provided in this article. By signing said Permit, each Permit recipient acknowledges and agrees to comply with all of the applicable terms and conditions that may be specified in such Permit and this article.

Section 14.05 - PERMITS - APPLICATION

Whenever the privilege of doing any of the acts hereinbefore enumerated in this article requires obtaining a Permit from the Executive Director, the following procedure shall be followed:

(a) An application for a Permit shall be filed with the District not less than sixty (60) days before the date on which the Fireworks Display Event is proposed to occur.

(b) The application shall be in writing, in a form approved by the District, and shall include, at minimum, the following information: the Person who proposes to handle, possess, store, load, stage, launch or detonate Fireworks, including if applicable the Fireworks Organizer, Fireworks Operator and Sponsor of the Fireworks Display Event; the date, time and duration of the proposed Fireworks Display Event; the location(s) of the proposed Fireworks Display Event, including the loading, staging and launching sites; the total number of

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pounds, shell sizes and types of Fireworks to be used; and the proposed event transportation and parking management plan for the Fireworks Display Event.

(c) The application shall include copies of the Applicant's Notice of Intent for coverage under the San Diego Water Board General Permit, the San Diego Water Board's Notice of Enrollment of the proposed Fireworks Display Event under said General Permit, and the Best Management Practices Plan approved by the San Diego Water Board for the proposed Fireworks Display Event.

(d) When the application is deemed complete, the Executive Director shall review the application and determine whether the proposed Fireworks Display Event complies with all of the requirements of section 14.07 (Permit – Conditions of Approval) of this article. If the proposed Fireworks Display Event complies with all of the requirements of section 14.07 (Permit – Conditions of Approval) of this article, the Executive Director shall issue a Permit.

(e) Each Permit issued shall state the date, time and location of the Fireworks Display Event for which it is issued, the name of the Person to whom it is issued and all mandatory conditions upon which the Permit is given.

(f) An application for a permit for a Fireworks Display Event at a location not identified in Section 14.07(a) of this article may be granted by the Executive Director provided that (i) environmental review for the proposed Fireworks Display Event has been completed and approved or certified by the District as required by the California Environmental Quality Act, Public Resources Code § 21000, et seq. prior to issuance of a permit and (ii) the applicant has obtained all other permits and approvals as required by law, including without limitation approvals and permits required under the California Coastal Act, Public Resources Code § 30000, et seq.

Section 14.06 - PERMITS – PUBLIC NOTICE

(a) Within five (5) business days after the issuance of a Permit pursuant to this article, the Executive Director shall give public notice of the issuance of such Permit by posting a copy of the Permit on the District's website.

Section 14.07 - PERMITS - CONDITIONS OF APPROVAL

All permits issued by the Executive Director shall be subject to the following terms and conditions:

(a) Location of Fireworks Display Events.

1. Fourth of July Fireworks Display Events shall occur only at the following locations:

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A. Big Bay Boom, at up to four (4) locations in northern San Diego Bay;

B. Fourth of July Imperial Beach Fireworks, at one (1) location along the Imperial Beach Pier;

C. Fireworks Over Glorietta Bay, at one (1) location in Glorietta Bay;

D. Chula Vista Fourth of July, at one (1) location adjacent to the Chula Vista Bayfront; and

E. National City Fourth of July, at one (1) location adjacent to the National City Bayfront.

2. Non-Fourth of July Fireworks Display Events shall occur only at the following locations:

A. National Steel and Shipbuilding Company (NASSCO) shipyard, not to exceed two (2) displays per year along NASSCO Pier 12;

B. U.S.S. Midway Museum, not to exceed twenty-three (23) displays per year on or adjacent to the U.S.S. Midway Museum;

C. San Diego Symphony Summer Pops Concerts, not to exceed twenty (20) displays per year adjacent to Embarcadero Marina Park South;

D. Our Lady of Rosary Church Annual procession, not to exceed one (1) display per year along Harbor Drive and at end of Grape Street Pier; and

E. Chula Vista Bayfront, not to exceed two (2) displays per year adjacent to the Chula Vista Bayfront.

(b) Duration of Fireworks Display Events.

1. Fourth of July Fireworks Display Events shall not exceed twenty (20) minutes in duration.

2. Non-Fourth of July Fireworks Display Events shall not exceed ten (10) minutes in duration.

(c) Size of Fireworks Display Events.

1. Fourth of July Fireworks Display Events:

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A. Big Bay Boom, not to exceed a cumulative 5,342 pounds of fireworks with shell sizes not to exceed 10 inches;

B. Fourth of July Imperial Beach Fireworks, not to exceed 456 pounds of fireworks with shell sizes not to exceed 10 inches;

C. Fireworks Over Glorietta Bay, not to exceed 397 pounds of fireworks with shell sizes not to exceed 10 inches;

D. National City Fourth of July, not to exceed 400 pounds of fireworks with shell sizes not to exceed 8 inches; and

E. Chula Vista Fourth of July, not to exceed 400 pounds of fireworks with shell sizes not to exceed 8 inches.

2. Non-Fourth of July Fireworks Display Events:

A. NASSCO shipyard, not to exceed 281 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 439 pounds of fireworks per year;

B. U.S.S. Midway Museum, not to exceed 235 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 1,759 pounds of fireworks per year;

C. San Diego Symphony Summer Pops Concerts, not to exceed 95 pounds of fireworks per display with shell sizes not to exceed 6 inches, or a cumulative total of 1,498 pounds of fireworks per year;

D. Our Lady of Rosary Church Annual procession, not to exceed 18 pounds of fireworks with shell sizes not to exceed 6 inches; and

E. Chula Vista Bayfront, not to exceed 114 pounds of fireworks per display with shell sizes not to exceed 8 inches, or a cumulative total of 228 pounds of fireworks per year.

(d) Fireworks Chemical Composition and Packaging.

1. Chemical Composition.

A. The Big Bay Boom Fourth of July Fireworks Display Event shall use Fireworks which contain no more than 0.32% copper (Cu) per pound of explosive firework material, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that the total copper emissions from the proposed Big Bay Boom Fireworks Display Event will not exceed seventeen (17) pounds. Fireworks which do not conform to the foregoing

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requirement, but were lawfully purchased prior to the effective date of this article, may be used for a period of six months after the effective date of this article.

B. All Fireworks Display Events shall use Alternative Fireworks produced with pyrotechnic formulas which replace perchlorate with other oxidizers and propellants that burn cleaner, produce less smoke and reduce pollutant waste loading to surface waters, unless the Applicant establishes in writing and to the satisfaction of the Executive Director that such Alternative Fireworks are not commercially available.

2. Packaging.

A. Prior to commencement of a Fireworks Display Event, the Fireworks Operator shall remove and properly dispose of all packaging, wrapping and labels (excluding labels mandated by State or Federal laws) from all Fireworks to be used in the event.

B. Fireworks that include a plastic outer casing or non-biodegradable inner components that make up more than five (5) percent of the mass of the shell or device are prohibited.

(e) Protection of Sensitive Species and Habitat. The following conditions shall apply to Fireworks Display Events that occur between February 15 and September 15 (i.e., avian breeding season) and are located less than one (1) mile from any federally or state-listed avian species nesting colonies:

1. Location. Fireworks Display Events shall be located not less than one (1) mile from any federally or state-listed avian species nesting colony unless the maximum size of shells used in the event is limited to eight (8) inches.

2. Salutes. Fireworks Display Events shall not use concussion type, non-color shells such as "salutes" or "reports" during the initial twenty-five percent (25%) of the duration of any display (e.g., within the first 5 minutes of a 20-minute display).

3. Security. For Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one-half mile of unprotected (i.e., unfenced) federally or state-listed nesting colonies or habitat areas, the Fireworks Organizer shall provide a minimum of two professional security guards to direct persons away from and to discourage trespass into sensitive nesting areas or habitat during such displays. In addition, the fireworks organizer shall provide security patrols of the water area to enforce the existing restrictions on access to unauthorized areas during such fireworks display events in the South Bay.

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4. Signage. For Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) that occur within one half-mile of nesting colonies or habitat areas for federally or state-listed species, the Fireworks Organizer, in cooperation with the District, shall post temporary signage along primary access points to sensitive nesting colonies and habitat areas to identify safe viewing locations, to educate visitors on locations of sensitive wildlife habitats, to prevent viewers from trespassing into sensitive areas and to encourage appropriate viewing behavior.

5. Education. Beginning not less than seven (7) days before Fireworks Display Events with public viewing areas (i.e., parks, promenades, publicly accessible piers, and other similar facilities) located within one-half mile of federally or state-listed nesting colonies or habitat areas, the Fireworks Organizer shall implement a public education program using daily announcements on social media, press releases, and information posted at parks, boat launch facilities, marinas, yacht clubs and other viewing locations, to educate potential viewers regarding appropriate viewing and boat docking areas, to discourage trespass into sensitive wildlife habitat, and to remind viewers of appropriate viewing behavior in and near sensitive nesting colonies and habitat areas (e.g., appropriate disposal of trash, prevention of illegal fireworks, and safe boating procedures).

(f) Best Management Practices. Fireworks Display Events shall implement the following BMPs for Fireworks Display Event preparation, discharge and clean-up:

1. Fireworks Display Events on barges shall be set up at a loading facility in accordance with the requirements and under the supervision of the municipal fire department with jurisdiction over the event. Barges shall be inspected for leaks and other potential safety issues. Idling time for delivery trucks and loading equipment shall not exceed three (3) minutes and all such trucks and equipment shall be shut down when not in use.

2. Fireworks shall be brought to the barge and loaded in their U.S. Department of Transportation (DOT)-approved shipping cartons. Fireworks shall be encased in paper to prevent spillage of loose compounds. All packaging material and debris, including fuses, wires, shipping cartons and other wrapping, shall be properly disposed of in trash receptacles as the Fireworks Display Event is set up. Unless prohibited by the municipal fire marshal with jurisdiction over the Fireworks Display Event, barges shall be equipped with a fire-retardant debris barrier that extends six feet (6') in height, with openings no larger than ¼ inch, around the perimeter of the Fireworks launch area to contain debris.

3. Wires from the electric match placed in the Fireworks fuse shall be secured to avoid strain (such as wrapped around nails that are on the racks, tied to the racks, or tied to the mortar) to prevent wires from being pulled

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out and falling into the water. Wire cables connected to computer firing equipment modules shall also be properly secured to ensure they remain on the barge during the Fireworks Display Event.

4. Once the Fireworks are prepared for launch, all trash and debris shall be removed from the barge while it is at the loading facility and prior to the barge being moved into position. No loose material shall be allowed on the barges during the Fireworks Display Event.

5. Following the Fireworks Display Event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the Fireworks Display Event, the Fireworks Operator shall pick up all loose material on the barge, including all trash and debris resulting from the discharge of the Fireworks, to prevent it from being discharged into the water while the barge is underway.

6. Upon return to the loading facility, the Fireworks Operator shall clean the barge of all Fireworks related material and shall photograph and properly dispose of all Fireworks trash and debris. Unexploded Fireworks and related components shall be collected and disposed of by the Fireworks Operator in accordance with all applicable regulations. Fireworks Operators shall photograph the barge prior to and after cleaning.

7. Following the Fireworks Display Event and upon expiration of any safety period required by the municipal fire marshal with jurisdiction over the event, the Fireworks Organizer shall provide cleanup crews and boats to conduct sweeps of the fireworks detonation zone to gather any floating debris from spent Fireworks using hand held fishnets, pool skimmers, or other similar equipment.

8. The morning after the Fireworks Display Event, the Fireworks Organizer shall conduct another sweep of the fireworks detonation zone and quays, piers and docks adjacent to the fireworks detonation zone to remove Fireworks trash and debris. The Fireworks Organizer shall collect, bag, weigh and photograph all trash and debris collected prior to its disposal.

9. The morning after the Fireworks Display Event, the Fireworks Organizer shall perform a cleanup of the shoreline using crews of not fewer than five persons per barge on the shoreline adjacent to each barge location. Each crew member shall be equipped with trash bags and a trash grabber. The Fireworks Organizer shall collect, bag, weigh, and photograph all trash and debris collected prior to its disposal.

10. Within ten (10) business days after a Fireworks Display Event, the Fireworks Organizer shall provide the Executive Director with the photographs and written evidence of the weight of the Fireworks trash and debris

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collected pursuant to subdivisions (5) through (9) above. If the dry weight of the Fireworks trash and debris collected is less than fifty percent (50%) of the net weight of fireworks launched during the Fireworks Display Event, the Fireworks Organizer shall offset the remaining amount by providing a crew of not fewer than two (2) persons for each barge or other launch site used in the Fireworks Display Event to participate in the next scheduled "Operation Clean Sweep" or other District-sponsored clean-up event prior to the end of the calendar year to recover trash and debris from San Diego Bay and/or the Imperial Beach Oceanfront.

11. For all Fourth of July Fireworks Display Events and for Non-Fourth of July Fireworks Display Events which are advertised to the public, the Fireworks Organizer shall double the number of trash receptacles at major viewing areas prior to each fireworks display event; trashcans shall be emptied and parks and viewing areas shall be cleaned following the event.

(g) Eelgrass Avoidance and Mitigation. For Fireworks Display Events with launching sites located in shallow water with the potential for eelgrass to occur, fireworks barges shall be held in place by tugboats and shall not require temporary moorings. To the extent practicable, barges shall be located in unvegetated deep water channels outside of eelgrass beds. Pre-event and post-event eelgrass surveys shall be completed to identify the distribution of eelgrass to assist tug operators and to assess any impacts to eelgrass that may occur. Through a pre-event training, tug operators shall be made aware of shallow eelgrass and instructed not to use high thrust in the vicinity of eelgrass beds. If an unanticipated impact to eelgrass occurs, this impact shall be mitigated by replacing the eelgrass at a ratio determined by the California Eelgrass Mitigation Policy.

(h) Event Transportation and Parking Management Plans. For all Fourth of July Fireworks Display Events and for Non-Fourth of July Fireworks Display Events which are advertised to the public, the Fireworks Organizer shall prepare and submit an event transportation and parking management plan (ETPMP) to the Executive Director for approval as part of the Application, which shall be designed to ensure safe and convenient access to public viewing areas while limiting conflicts between transportation modes and reducing impacts on surrounding transportation facilities to the maximum extent feasible. The ETPMP shall take into account anticipated attendance, existing transportation and parking facilities, and other concurrent public events in the surrounding areas, and shall include but is not limited to the following:

1. Transportation management strategies, including but not limited to, a public awareness program, traffic management and enforcement, incident management, and public transit and alternative modes of transportation management, which shall be implemented for the Fireworks Display Event; and

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2. Parking management strategies, including but not limited to a public awareness program, coordination with parking vendors, off-site parking arrangements, designated areas for taxi and rideshare pick up/drop off, promotional programs with rideshare vendors, joint event ticketing programs with public transit agencies, and expanded shuttle operations.

(i) Compliance with San Diego Water Board General Permit.

1. Prior to the Executive Director's issuance of a permit pursuant to this article, the Applicant shall demonstrate that it has applied for coverage and has been enrolled under the San Diego Water Board General Permit.

2. The Applicant shall comply with all applicable terms, conditions and Best Management Practices required by the San Diego Water Board General Permit, which shall be incorporated into and considered in the terms, conditions and Best Management Practices of any permit issued by the Executive Director pursuant to this article.

3. The Applicant shall submit to the District copies of all applications, plans, reports and other documentation required by the San Diego Water Board General Permit, including without limitation the Notice of Intent, Fireworks Best Management Practices Plan, Public Fireworks Display Log and the Public Display of Fireworks Post Event Report, within the time required for the submission of such reports to the San Diego Water Board.

(j) Compliance with Other Required Permits: Prior to the Executive Director's issuance of a Permit pursuant to this article, the Applicant shall demonstrate that it has obtained and shall comply with all other permits and approvals required by federal, state and local laws and regulations including, without limitation, such permits and approvals as are required by the United States Coast Guard, California Coastal Act, the District Code, including Article 10 (Stormwater Management and Discharge Control), and the fire marshal of any city which has jurisdiction over all or any part of the activity allowed under said Permit.

(k) Compliance with Laws: The Applicant shall comply with any and all applicable rules and regulations promulgated by the District, including without limitation the District Code, the Chula Vista Bayfront Master Plan Settlement Agreement and Natural Resources Management Plan, and with the laws, rules and regulations of the United States of America and the State of California, and of any department or agency thereof, and with the applicable ordinances, rules and regulations of any city which has jurisdiction over all or any part of the activity allowed under said Permit. The Applicant's failure to comply with any applicable law, ordinance, rule or regulation shall be cause for immediate revocation of said permit and for the denial of applications for future Permits.

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(l) Indemnity: The Applicant shall indemnify and hold harmless the District, its board, officers and employees, from any and all claim of loss, liability or damage arising out of the Fireworks Display Event, including but not limited to the issuance of the District Permit, or in connection with the handling, possession, storage, loading, staging, launching or detonating of Fireworks by the Applicant, its officers, employees, contractors, agents or other representatives, howsoever caused, whether such loss, liability or damage results, either directly or indirectly, from the acts, omissions or negligence of the Applicant, its officers, employees, contractors, agents or other representatives, in connection with the handling, possession, storage, loading, staging, launching or detonation of Fireworks pursuant to said Permit.

(m) Insurance: The Applicant shall file with the Executive Director, in a form approved by the District General Counsel, a policy of public liability and property damage insurance, in such amounts and form as the Executive Director may specify, indemnifying the District, its boards, officers and employees, as their interest may appear under the terms and conditions of said Permit. The Permit shall not become effective until after such policy of insurance has been received by the District.

(n) Performance Bond: For public Fireworks Display Events with over 500 spectators the Applicant shall post a faithful performance bond, in a form approved by the District General Counsel, or in lieu thereof the equivalent in cash, in an amount sufficient in the opinion of the Executive Director to cover costs associated with the Fireworks Display Event allowed under the permit, including without limitation the costs of providing security for the protection of sensitive species and habitat, and cleaning up and removing debris, rubbish and trash. The permit shall not become effective until after such faithful performance bond, or cash in lieu thereof, has been posted with and received by the District.

(o) Mitigation Measures: All permit applications shall be reviewed by the District for consistency with the Mitigation Monitoring and Reporting Program (MMRP) from the Final Environmental Impact Report for the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project, as certified by the Board of Port Commissioners, and all applicable mitigation measures from the MMRP shall be identified as required conditions of the approved permit issued by the District.

Section 14.8 – GENERAL PROVISIONS

(a) Preemption. The provisions of this article do not apply where any federal or state law regulates the handling, possession, storage, loading, staging, launching or detonating of Fireworks if the federal or state law preempts local regulation or the federal or state law is more restrictive.

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(b) Severability. If any provision of this article or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of this article which can be given effect without the invalid provisions or application, and to this end the provisions of this section are severable.

(c) Cost Recovery. The Applicant shall pay a fee to the District for the cost of services and administrative acts of the District incurred in processing a permit application.

Section 14.9 – ENFORCEMENT

Any person who violates this article or who fails to comply with the terms and conditions of a permit issued pursuant to this article shall be subject to punishment in accordance with District Code section 0.11, General Penalty, and section 0.13, Permit Violations.

Section 2. The administrative record for the District's approval of this Ordinance is maintained at the District's Administrative Building located at 3165 Pacific Highway, San Diego, CA 92101. The custodian of records is the District Clerk.

Section 3. This Ordinance shall take effect on the 31st day from its passage by the Board of Port Commissioners.

APPROVED AS TO FORM AND LEGALITY:
GENERAL COUNSEL

By: Assistant/Deputy

PASSED AND ADOPTED by the Board of Port Commissioners of the San Diego Unified Port District, this 25th day of May, 2017, by the following vote: